Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: HSD Inventory Management Implementation   **Project ID: D51166IM**

Leadership Group: Finance Admin		
Department: Emergency Mgmt & Homeland Security	**Division:** Emergency Management	
Project Sponsor: Thom Hardesty	**Date Requested:** 10/19/21	**PM Customer No.** 110
Request Type: ***New Development*** *Enhancement* *Customer Support* *Planned System Maintenance or Upgrade*		
IT Team Name: Public and Environmental Services	**IT Team No:** 5	
Project Manager/Leader: Stu Smith		
Account Number: 17020 **Account Description:** Application Services		**Customer Name:**
Grant Funded? No	**Mandate?** No **Mandate Source:**	

Project Goal

To implement a new inventory management solution for Emergency Management so that supplies and PPE purchased and stored for use and distribution during the pandemic and in future emergencies can be tracked and maintained in a centralized location.

Business Objective

To implement a new inventory management system including barcode scanning and tracking functionality that will allow for the Emergency Management department track and maintain current and future inventory for use during emergencies. The new system will allow end users to access online inventory reports to improve inventory planning and distribution.

Major Deliverables
- Detailed Project Plan
- Application and/or System Requirements
- End User Hardware and Software Requirements Document
- Technical Design Document
- Technical Architecture Diagram
- User Acceptance Test Plan
- Implementation Plan
- Training/User Manual(s)
- Service Level Agreement
- Disaster Recovery Toolkit
- Service Center Knowledge Documents

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Approach
- Develop Detailed Project Plan
- Document system requirements
- Determine and document system architecture and diagram
- Conduct Tech Review
- Develop Implementation Plan
- Configure new system
- Develop User Acceptance Test Plan
- Test new system
- Acquire User Acceptance Sign off
- Conduct Change Control
- Develop User Documentation, Disaster Recovery Toolkit, Service Center Knowledge Documents
- Train users on new system
- Release new system into production

Research & Analysis

Research Conducted – Nothing Found

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users   5 Emergency Management users

Divisions   Emergency Management

Leadership Groups   Finance/Admin

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Risk

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

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Technical Environment   LOW – Proven and previously implemented technologies

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	Thom Hardesty	As Needed
Business Process SME	Robert Seeley	As Needed

Facilities

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Technical

• Okta integration expected.

Funding

• ARP

Other

• Will include purchase and set up of handheld barcode scanner and printer

Priority

Constraints

• None Applicable

Exclusions

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Oakland County
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PROJECT PHASE AUTHORIZATION

Phase(s): All		
Total Estimated Application Services	**Hours: 268**	
Total Estimated Technical Systems	**Hours: 23**	
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: 291**	
Preliminary Estimated Development for Future Phases	**Hours: 0**	
Grand Total Estimated Development	**Hours: 291**	**Cost: $48,015**

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PROJECT COMPLETION AUTHORIZATION

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

HSD Inventory Management Implementation - Size Estimate (+/- 10% to 50%)

	Type	ID	Task Name	Estimated	Estimate Notes
1					
2				Hours	
3	Phase	000000	PROJECT MANAGEMENT	99	
4	Phase	300000	DESIGN SYSTEM ARCHITECTURE	44	
5	Phase	400000	IMPLEMENT VENDOR APPLICATION	47	
6	Phase	500000	IMPLEMENTATION PHASE	73	
7	Phase	600000	POST IMPLEMENTATION SUPPORT	28	
8				291	

HSD Inventory Management Implementation
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:	48,015	6,666	6,733	6,800	6,868	6,937	82,018
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	13,335	14,000	14,702	15,437	16,202	0	73,676
Infrastructure Subtotal	0	0	0	0	0	0	0
Training Subtotal:	0	0	0	0	0	0	0
Other Subtotal:	4,614	0	0	0	0	0	4,614
Annual Statistics:							
Annual Total Savings	0	0	0	0	0	0	0
Annual Total Costs	65,964	20,666	21,435	22,237	23,070	6,937	160,308
Annual Return on Investment	(65,964)	(20,666)	(21,435)	(22,237)	(23,070)	(6,937)	(160,308)
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	65,964	86,630	108,065	130,302	153,372	160,308	160,308
Cumulative Return on Investment	(65,964)	(86,630)	(108,065)	(130,302)	(153,372)	(160,308)	(160,308)
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:			

HSD Inventory Management Implementation

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
Improved availability, accessibility, and uptime for quick decision making in the event of an emergency.	Intangible Benefit					0	1.010
Provide greater confidence in the reporting of available supplies, limited items, and urgent needs.	Intangible Benefit					0	1.000
						0	1.010
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	

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
Improved availability, accessibility, and uptime for quick decision making in the event of an emergency.	Intangible Benefit		X	X	X	X	X		0.00	0.00	0.00	0.00	0
Provide greater confidence in the reporting of available supplies, limited items, and urgent needs.	Intangible Benefit		X	X	X	X	X		0.00	0.00	0.00	0.00	0
			X	X	X	X	X		0.00	0.00	0.00	0.00	0

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:							
Improved availability, accessibility, and uptime for quick decision making in the event of an emergency.							
Provide greater confidence in the reporting of available supplies, limited items, and urgent needs.							
Savings Total:							

HSD Inventory Management Implementation
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		HR	291	165	48,015		x					
IT Hours - System Maintenance	Development Svcs		HR	20	165	3,300	1.010		x	x	x	x	x
IT Hours - Customer Support	Development Svcs		HR	20	165	3,300	1.010		x	x	x	x	x
IT Hours - Planned Maintenance	Development Svcs		HR		165	0	1.010		x		x		x
User Hours - New Development	Development Svcs					0							
User Hours - PTNE/OT	Development Svcs					0							
Contractor Professional Services	Development Svcs					0							
PC System - Acquisition	Hardware				687	0							
PC System - Maintenance	Hardware				2,936	0							
Notebook - Acquisition	Hardware				1,115	0							
Notebook - Maintenance	Hardware				3,024	0							
Barcode Scanner/Printer bundle - Acquisition	Hardware				1,421	0							
Tablet Notebook - Maintenance	Hardware				2,800	0							
Laserprinter - Acquisition	Hardware				1,432	0							
Laserprinter - Maintenance	Hardware				1,408	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		EA			0		x					
Package Software - Maintenance	Software		EA			0			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							
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							

HSD Inventory Management Implementation
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 - 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							
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							

HSD Inventory Management Implementation
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
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 Exisitng Instance	Infrastructure				366	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							

HSD Inventory Management Implementation

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	48,015.00					
IT Hours - System Maintenance	Development Svcs		3,333.00	3,366.33	3,399.99	3,433.99	3,468.33
IT Hours - Customer Support	Development Svcs		3,333.00	3,366.33	3,399.99	3,433.99	3,468.33
IT Hours - Planned Maintenance	Development Svcs		0.00		0.00		0.00
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						
Barcode Scanner/Printer bundle - Acquisition	Hardware	4,614.00					
Tablet Notebook - Maintenance	Hardware						
Laserprinter - Acquisition	Hardware						
Laserprinter - Maintenance	Hardware						
PC Maintenance User Owned	Hardware						
Printer Maintenance User Owned	Hardware						
File Space (100GB)	Hardware						
Package Software - Acquisition	Software	13,335.00					
Package Software - Maintenance	Software		14,000.00	14,702.00	15,437.00	16,202.00	0.00
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						
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						

HSD Inventory Management Implementation

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
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						
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						

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Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
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 Exisitng Instance	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						

HSD Inventory Management Implementation

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	48,015						48,015
IT Hours - System Maintenance		3,333	3,366	3,400	3,434	3,468	17,002
IT Hours - Customer Support		3,333	3,366	3,400	3,434	3,468	17,002
IT Hours - Planned Maintenance							
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	*48,015*	*6,666*	*6,733*	*6,800*	*6,868*	*6,937*	*82,018*
Hardware:							
Hardware Subtotal:							
Software:							
Package Software - Acquisition	13,335						13,335
Package Software - Maintenance		14,000	14,702	15,437	16,202		60,341
Software Subtotal:	*13,335*	*14,000*	*14,702*	*15,437*	*16,202*		*73,676*
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Barcode Scanner/Printer bundle - Acquisition	4,614						4,614
Other Subtotal:	*4,614*						*4,614*
Costs Total:	*65,964*	*20,666*	*21,435*	*22,237*	*23,070*	*6,937*	*160,308*

Assumptions

Date	Assumption Description
12-Sep-21	Bar code scanner to be included
12-Sep-21	Printer to be included