Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: Siren Management Application Replacement   Project ID: D59166SA

Leadership Group: Finance/Admin	
Department: Health and Human Services Technology	**Division: Homeland Security**
Project Sponsor: Thomas Hardesty	**Date Requested: 02/15/18** **PM Customer No. 166**

Request Type: *XX New Development   Enhancement   Customer Support*

Planned System Maintenance or Upgrade

IT Team Name: Public and Environmental Services	**IT Team No: 5**

Project Manager/Leader: Shashi Gowda

Account Number:	98990	**Account Description:**	Homeland Security	**Customer Name:**	Homeland Security

Grant Funded?   Yes   No XX   **Mandate?   Yes   No XX**

Mandate Source:

Project Goal

To upgrade the current Siren Management application so that it adheres to the current IT standards, utilizes the latest GIS technologies, and allows HSD to gain improved and increased functionality, is able to retain and manipulate historical data, to streamline data input, report generation, incorporate photos, add GPS coordinates and add e-mail capability.

Business Objective

- To upgrade the Siren Management application that is no longer supportable in its current technologies (VB6, MapObjects).
- To increase efficiency in monthly siren testing and tracking and eliminate paper, printing, and postage costs
- To be able to retain and manipulate historical data, streamline data input, improve/increase report generation, increase overall data set to include photos and GPS coordinates, and add e-mail capability.

   Major Deliverables
   - Detailed Project Plan
   - Implementation Plan
   - Application and System Requirements
   - Integration to GIS ArcGIS Online
   - Technical Architecture Diagram(s)
   - Knowledge documents loaded into the Knowledge Tools component of the Service Center System.
   - Documented Backup/Recovery and Disaster Recovery procedures.

Project Name: Siren Management Application Replacement   Project ID: D59166SA

- Training
- Tested Backup/Recovery and Disaster Recovery procedures.

Approach
- Develop Detailed Project Plan
- Document system requirements
- Determine and document system architecture and diagram
- Conduct Tech Review
- 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

Research Conducted – Nothing Found

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users   5+

Divisions   Homeland Security

Leadership Groups   Finance/Admin

Risk

Business Environment   Medium – Project will require some changes to existing business

Project Name: Siren Management Application Replacement   Project ID: D59166SA

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
Sponsor	Thomas Hardesty	As Needed
Business Lead	Kevin Scheid	As Needed
Subject Matter Expert	Tracey McGee	As Needed

Facilities

*

Technical

* Integration with Enterprise GIS

Funding

* Information Technology

Other

*

Priority

Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: Siren Management Application Replacement   **Project ID: D59166SA**

Constraints

- None Applicable

Exclusions

-

Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: Siren Management Application Replacement   **Project ID: D59166SA**

PROJECT PHASE AUTHORIZATION

Phase(s): All		
Total Estimated Application Services **Hours:** **660**		
Total Estimated Technical Systems **Hours:** **93**		
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:**		
Preliminary Estimated Development for Future Phases **Hours:**		
Grand Total Estimated Development **Hours: 753** **Cost: $ 124,245**		

Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: Siren Management Application Replacement   **Project ID: D59166SA**

PROJECT COMPLETION AUTHORIZATION

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

Siren Management Application Replacement - Size Estimate (+/- 10% to 50%)

	Type	ID	Task Name	Estimated	Estimate Notes
1				Hours	
2					
3	3	000000	PROJECT MANAGEMENT	166	
4	Phase	200000	DEFINE BUSINESS REQUIREMENTS	33	
5	Phase	300000	DESIGN SYSTEM ARCHITECTURE	97	
6	Phase	500000	DEVELOP APPLICATION	339	
7	Phase	600000	IMPLEMENTATION PHASE	78	
8	Phase	080000	POST IMPLEMENTATION SUPPORT	40	
9				753	

Oakland County -- Siren Management Application Replacement

As Of: 2/15/18

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:	200	200	200	200	200	200	1,200
Cost Avoidance Subtotal:	4,225	4,310	4,396	4,484	4,573	4,665	26,652
Costs:							
Development Services Subtotal:	130,845	13,200	6,600	13,200	6,600	13,200	183,645
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	0	0	0	0	0	0	0
Infrastructure Subtotal	930	930	930	930	930	930	5,580
Training Subtotal:	0	0	0	0	0	0	0
Other Subtotal:	0	0	0	0	0	0	0
Annual Statistics:							
Annual Total Savings	4,425	4,510	4,596	4,684	4,773	4,865	27,852
Annual Total Costs	131,775	14,130	7,530	14,130	7,530	14,130	189,225
Annual Return on Investment	(127,350)	(9,621)	(2,934)	(9,446)	(2,757)	(9,265)	(161,373)
Annual Costs/Savings Ratio	2977.97%	313.34%	163.85%	301.69%	157.75%	290.46%	
Project Cumulative Statistics:							
Cumulative Total Savings	4,425	8,935	13,530	18,214	22,987	27,852	27,852
Cumulative Total Costs	131,775	145,905	153,435	167,565	175,095	189,225	189,225
Cumulative Return on Investment	(127,350)	(136,971)	(139,905)	(149,351)	(152,108)	(161,373)	(161,373)
Cumulative Cost/Savings Ratio	2977.97%	1633.05%	1134.02%	919.99%	761.71%	679.40%	679.40%
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 -- Siren Management Application Replacement

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
Time spent working outside of the sytem to get around the system limitations related to reporting needs.	Cost Avoidance		HR	40	65	2,600	1.020
Reallocation of time management spent on working around the inefficiencies of the current system to other duties.	Intangible Benefit					0	
Reduce time spent inputting/retrieving data from two separate systems.	Cost Avoidance		HR	15	65	975	1.020
Upgrade the system to meet the current IT standards	Intangible Benefit					0	
Updated technology will reduce the security risks of unsupported sofware	Intangible Benefit					0	
System compatibility with Windows 10	Intangible Benefit					0	
Postage, paper, printing, envelopes, etc	Tangible Benefit	Homeland Security Printing/Postage	ANN	200	1	200	
Reduction in HSD staff time for mailings	Cost Avoidance		HR	10	65	650	1.020
						0	
						0	

Oakland County -- Siren Management Application Replacement

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
Time spent working outside of the sytem to get around the system limitations related to reporting needs.	Cost Avoidance	x	x	x	x	x	x	2,600.00	2,652.00	2,705.04	2,759.14	2,814.32	2,871
Reallocation of time management spent on working around the inefficiencies of the current system to other duties.	Intangible Benefit												
Reduce time spent inputting/retrieving data from two separate systems.	Cost Avoidance	x	x	x	x	x	x	975.00	994.50	1,014.39	1,034.68	1,055.37	1,076
Upgrade the system to meet the current IT standards	Intangible Benefit												
Updated technology will reduce the security risks of unsupported sofware	Intangible Benefit												
System compatibility with Windows 10	Intangible Benefit												
Postage, paper, printing, envelopes, etc	Tangible Benefit	x	x	x	x	x	x	200.00	200.00	200.00	200.00	200.00	200
Reduction in HSD staff time for mailings	Cost Avoidance	x	x	x	x	x	x	650.00	663.00	676.26	689.79	703.58	718

Oakland County -- Siren Management Application Replacement

Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Tangible Benefit:							
Postage, paper, printing, envelopes, etc	200	200	200	200	200	200	1,200
Tangible Benefits Subtotal:	*200*	*200*	*200*	*200*	*200*	*200*	*1,200*
Cost Avoidance:							
Time spent working outside of the sytem to get around the system limitations related to reporting needs.	2,600	2,652	2,705	2,759	2,814	2,871	16,401
Reduce time spent inputting/retrieving data from two separate systems.	975	995	1,014	1,035	1,055	1,076	6,150
Reduction in HSD staff time for mailings	650	663	676	690	704	718	4,100
Cost Avoidance Subtotal:	*4,225*	*4,310*	*4,396*	*4,484*	*4,573*	*4,665*	*26,652*
Intangible Benefit:							
Reallocation of time management spent on working around the inefficiencies of the current system to other duties.							
Upgrade the system to meet the current IT standards							
Updated technology will reduce the security risks of unsupported sofware							
System compatibility with Windows 10							
Savings Total:	*4,425*	*4,510*	*4,596*	*4,684*	*4,773*	*4,865*	*27,852*

Oakland County -- Siren Management Application Replacement

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			753	165	124,245		x					
IT Hours - System Maintenance	Development Svcs		ANN	20	165	3,300		x	x	x	x	x	x
IT Hours - Customer Support	Development Svcs		ANN	20	165	3,300		x	x	x	x	x	x
IT Hours - Planned Maintenance	Development Svcs		ANN	40	165	6,600			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				814	0							
PC System - Maintenance	Hardware				2,304	0							
Notebook - Acquisition	Hardware				1,223	0							
Notebook - Maintenance	Hardware				2,372	0							
Tablet Notebook - Acquisition	Hardware				2,012	0							
Tablet Notebook - Maintenance	Hardware					0							
Laserprinter - Acquisition	Hardware				1,432	0							
Laserprinter - Maintenance	Hardware				1,104	0							
Image Workstations - Acquisition	Hardware					0							
Image Workstations - Maintenance	Hardware				3,496	0							
PC Maintenance User Owned	Hardware				2,304	0							
Printer Maintenance User Owned	Hardware				1,072	0							
File Space (100GB)	Hardware		ANN		173	0							
Internet Bandwidth per MB	Hardware		ANN		750	0							
Package Software - Acquisition	Software					0							
Package Software - Maintenance	Software					0							
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 Per Processor - Includes Year 1 Maintenance	Infrastructure				21,372	0							
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure				3,432	0							

Oakland County -- Siren Management Application Replacement

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 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							
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				3,506	0							

Oakland County -- Siren Management Application Replacement

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 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							
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure		ANN		415	0							
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure		ANN	1	930	930		x	x	x	x	x	x
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							

Oakland County -- Siren Management Application Replacement

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
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 -- Siren Management Application Replacement

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	124,245.00					
IT Hours - System Maintenance	Development Svcs	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00
IT Hours - Customer Support	Development Svcs	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00	3,300.00
IT Hours - Planned Maintenance	Development Svcs		6,600.00		6,600.00		6,600.00
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						
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						
Server Rack Mount	Infrastructure						
Oracle Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure						
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure						

Oakland County -- Siren Management Application Replacement

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 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						
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure						

Oakland County -- Siren Management Application Replacement

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
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						
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure						
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure	930.00	930.00	930.00	930.00	930.00	930.00
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						

Oakland County -- Siren Management Application Replacement

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**
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 -- Siren Management Application Replacement

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	124,245						124,245
IT Hours - System Maintenance	3,300	3,300	3,300	3,300	3,300	3,300	19,800
IT Hours - Customer Support	3,300	3,300	3,300	3,300	3,300	3,300	19,800
IT Hours - Planned Maintenance		6,600		6,600		6,600	19,800
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	*130,845*	*13,200*	*6,600*	*13,200*	*6,600*	*13,200*	*183,645*
Hardware:							
Hardware Subtotal:							
Software:							
Software Subtotal:							
Infrastructure:							
Database (5 GB) on Consolidated SQL Instance Server	930	930	930	930	930	930	5,580
Infrastructure Subtotal:	*930*	*930*	*930*	*930*	*930*	*930*	*5,580*
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	**131,775**	**14,130**	**7,530**	**14,130**	**7,530**	**14,130**	**189,225**

Oakland County -- Siren Management Application Replacement

Return on Investment Analysis

Assumptions

Date	Assumption Description