# Oakland County
# Department of Information Technology
# Project Scope and Approach

**Project Name:  HSD GIS Data Consolidation**                    **Project ID: D59166DC**

| | |
|---|---|
| **Leadership Group: Finance/Admin** | |
| **Department:  Health and Human Services** | **Division:  Homeland Security** |

| | | |
|---|---|---|
| **Project Sponsor:  Thomas Hardesty** | **Date Requested: 02/15/08** | **PM Customer No. 166** |

| |
|---|
| **Request Type:**     <u>*XX New Development*</u>          *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:** 98990 | **Account Description:** Homeland Security | **Customer Name:** | Homeland Security |

| | |
|---|---|
| **Grant Funded?   Yes     <u>No  XX</u>** | **Mandate?**          Yes          <u>**No  XX**</u> |
| | **Mandate Source:** |

## Project Goal

To develop a system and process within the enterprise GIS so that data relevant to Emergency Response (hospitals, day care centers, schools, etc.) is collected and maintained in a centralized manner.

## Business Objective

The main business objective of this project is to consolidate the GIS data from different sources (schools, daycare centers, hospitals, etc.) into one source and avoid redundant, incomplete and out-of-date data sources so that it will be easy for the Emergency Management team to pull/map data during emergency situations

- Ensure data in layers of GIS is current and accurate
- Eliminate duplicate and out of date data
- Indexing of various GIS layers
- Consistent naming conventions for files and layers

  **Major Deliverables**
  - Detailed Project Plan
  - Implementation Plan
  - System Requirements
  - Consolidated GIS data
  - Technical Architecture Diagram(s)
  - User Acceptance Test Plan
  - Disaster Recovery Toolkit
  - Service Level Agreement
  - Service Center Knowledge Documents
  - Training/User Manuals

# Oakland County
## Department of Information Technology
# Project Scope and Approach

**Project Name:  HSD GIS Data Consolidation**             **Project ID: D59166DC**

**Approach**
- Develop Detailed Project Plan
- Collect/Research various GIS data sources
- 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 –** Research conducted; nothing found

## Benefits

***See Return on Investment (ROI) Analysis Document***

## Impact

| | |
|---|---|
| **Number of Users** | 25+ |
| **Divisions** | Homeland Security |
| **Leadership Groups** | Finance/Admin |

## 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. |

# Oakland County
## Department of Information Technology
# Project Scope and Approach

**Project Name:  HSD GIS Data Consolidation**                    **Project ID: D59166DC**

## 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**

- None anticipated

**Funding**

- Information Technology

**Other**

- 

**Priority**

## Constraints

- None Applicable

## Exclusions

-

# Oakland County
## Department of Information Technology
# Project Scope and Approach

**Project Name:  HSD GIS Data Consolidation**                    **Project ID: D59166DC**

## PROJECT PHASE AUTHORIZATION

| | | |
|---|---|---|
| **Phase(s):** | | |
| **Total Estimated Application Services** | **Hours:  584** | |
| **Total Estimated Technical Systems** | **Hours:  11** | |
| **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:  595** | **Cost: $98,175** |

# Oakland County
## Department of Information Technology
# Project Scope and Approach

**Project Name:  HSD GIS Data Consolidation**                    **Project ID: D59166DC**

**PROJECT COMPLETION AUTHORIZATION**

| Customer Acceptance of Product: | |
|---|---|
| Title: | Date: |
| **Project Office Review:** | Date: |

HSD GIS Data Consolidation - Size Estimate (+/- 10% to 50%)

| | Type | ID | Task Name | Estimated | Estimate Notes |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | Hours | |
| 3 | 3 | 000000 | PROJECT MANAGEMENT | 183 | |
| 4 | Phase | 200000 | DEFINE BUSINESS REQUIREMENTS | 113 | |
| 5 | Phase | 300000 | DESIGN PROCESS AND LAYER SELECTION | 117 | |
| 6 | Phase | 500000 | DEVELOP AND DEPLOYMENT | 150 | |
| 7 | Phase | 600000 | IMPLEMENTATION PHASE | | |
| 8 | Phase | 080000 | POST IMPLEMENTATION SUPPORT | 32 | |
| 9 | | | | 595 | |

# Oakland County -- HSD GIS Data Consolidation

### 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: | 13,000 | 13,260 | 13,525 | 13,796 | 14,072 | 14,353 | 82,006 |
| **Costs:** | | | | | | | |
| Development Services Subtotal: | 98,175 | 0 | 0 | 0 | 0 | 0 | 98,175 |
| 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 | 13,000 | 13,260 | 13,525 | 13,796 | 14,072 | 14,353 | 82,006 |
| Annual Total Costs | 98,175 | 0 | 0 | 0 | 0 | 0 | 98,175 |
| | | | | | | | |
| Annual Return on Investment | (85,175) | 13,260 | 13,525 | 13,796 | 14,072 | 14,353 | (16,169) |
| Annual Costs/Savings Ratio | 755.19% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | |
| **Project Cumulative Statistics:** | | | | | | | |
| Cumulative Total Savings | 13,000 | 26,260 | 39,785 | 53,581 | 67,653 | 82,006 | 82,006 |
| Cumulative Total Costs | 98,175 | 98,175 | 98,175 | 98,175 | 98,175 | 98,175 | 98,175 |
| | | | | | | | |
| Cumulative Return on Investment | (85,175) | (71,915) | (58,390) | (44,594) | (30,522) | (16,169) | (16,169) |
| Cumulative Cost/Savings Ratio | 755.19% | 373.86% | 246.76% | 183.23% | 145.12% | 119.72% | 119.72% |
| | | | | | | | |
| 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 -- HSD GIS Data Consolidation

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 in searching various data points in GIS | Cost Avoidance | | HR | 200 | 65 | 13,000 | 1.020 |
| Having accurate data a necessity during an emergency | Intangible Benefit | | | | | 0 | |
| Quicker emergency response | Intangible Benefit | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |
| | | | | | | 0 | |

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 in searching various data points in GIS | Cost Avoidance | x | x | x | x | x | x | 13,000.00 | 13,260.00 | 13,525.20 | 13,795.70 | 14,071.62 | 14,353 |
| Having accurate data a necessity during an emergency | Intangible Benefit | | | | | | | | | | | | |
| Quicker emergency response | Intangible Benefit | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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# Oakland County -- HSD GIS Data Consolidation

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:** | | | | | | | |
| Time spent in searching various data points in GIS | 13,000 | 13,260 | 13,525 | 13,796 | 14,072 | 14,353 | 82,006 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| *Cost Avoidance Subtotal:* | *13,000* | *13,260* | *13,525* | *13,796* | *14,072* | *14,353* | *82,006* |
| | | | | | | | |
| **Intangible Benefit:** | | | | | | | |
| Having accurate data a necessity during an emergency | | | | | | | |
| Quicker emergency response | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| **Savings Total:** | *13,000* | *13,260* | *13,525* | *13,796* | *14,072* | *14,353* | *82,006* |

# Oakland County -- HSD GIS Data Consolidation

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 | | | 595 | 165 | 98,175 | | x | | | | | |
| IT Hours - System Maintenance | Development Svcs | | | | 165 | 0 | | | | | | | |
| IT Hours - Customer Support | Development Svcs | | | | 165 | 0 | | | | | | | |
| IT Hours - Planned Maintenance | Development Svcs | | | | 165 | 0 | | | | | | | |
| 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 -- HSD GIS Data Consolidation

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 -- HSD GIS Data Consolidation

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 | | 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 | | | | | | | |

# Oakland County -- HSD GIS Data Consolidation

### 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 -- HSD GIS Data Consolidation

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 | 98,175.00 | | | | | |
| 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 | | | | | | |
| Server Rack Mount | Infrastructure | | | | | | |
| Oracle Enterprise Per Processor - Includes Year 1 Maintenance | Infrastructure | | | | | | |
| Oracle Enterprise Per Processor - Year 2 and Beyond | Infrastructure | | | | | | |

# Oakland County -- HSD GIS Data Consolidation

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 -- HSD GIS Data Consolidation

### 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 | | | | | | |
| 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 -- HSD GIS Data Consolidation

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 -- HSD GIS Data Consolidation

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 | 98,175 | | | | | | 98,175 |
| IT Hours - System Maintenance | | | | | | | |
| IT Hours - Customer Support | | | | | | | |
| IT Hours - Planned Maintenance | | | | | | | |
| User Hours - New Development | | | | | | | |
| User Hours - PTNE/OT | | | | | | | |
| Contractor Professional Services | | | | | | | |
| *Development Services Subtotal:* | *98,175* | | | | | | *98,175* |
| **Hardware:** | | | | | | | |
| | | | | | | | |
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| *Hardware Subtotal:* | | | | | | | |
| **Software:** | | | | | | | |
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| *Software Subtotal:* | | | | | | | |
| **Infrastructure:** | | | | | | | |
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| *Infrastructure Subtotal* | | | | | | | |
| **Training:** | | | | | | | |
| | | | | | | | |
| *Training Subtotal:* | | | | | | | |
| **Other:** | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| *Other Subtotal:* | | | | | | | |
| **Costs Total:** | *98,175* | | | | | | *98,175* |

# Oakland County -- HSD GIS Data Consolidation

## Return on Investment Analysis

Assumptions

| Date | Assumption Description |
|------|------------------------|
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