

# Oakland County Department of Information Technology Project Scope and Approach

**Project Name: WRC Asset Optimization Phase III**

**Project ID: D59611SZ**

<b>Leadership Group:</b> Land			
<b>Department:</b> Water Resources Commissioner		<b>Division:</b> Admin	
<b>Project Sponsor:</b> Carrie Cox	<b>Date Requested:</b> 1/30/2018	<b>PM Customer No.</b> 611	
<b>Request Type:</b>	<u>New Development</u>	<i>Enhancement</i>	<i>Customer Support</i>
	<i>Planned System Maintenance or Upgrade</i>		
<b>IT Team Name:</b> Public & Environmental Services		<b>IT Team No:</b> 5	
<b>Project Manager/Leader:</b> Dennis Faustich			
<b>Account Number:</b> 37940	<b>Account Description:</b> WRC - CAMP	<b>Customer Name:</b>	Water Resources Commissioner
<b>Grant Funded?</b>	Yes <input checked="" type="checkbox"/> No	<b>Mandate?</b>	Yes No <input checked="" type="checkbox"/>
		<b>Mandate Source:</b>	N/A

## Project Goal

To implement an asset optimization state zero solution so that data updates can be integrated in to the capital asset management planning system at an increased frequency for improved reporting and modeling.

## Business Objective

To provide WRC a more accurate view of assets in order to increase the effectiveness of WRC operations and maintenance decisions for both vertical and horizontal assets by implementing a state zero solution that will leverage available data sources more frequently to recommend capital improvements, proactively identify risk, and support rehabilitation decisions.

## **Major Deliverables**

- Detailed Project Plan
- Determine schedule for 12 (twelve) additional state zeros within the 2019-2020 Master Plan
- Implementation and Communication Plans

## **Approach**

- Develop detailed project plan
- Determine schedule requirements aligning to SAW Grant deadlines
- Identify data needs and schedules to align with additional state zero dates
- Support WRC in technical discussions with vendor
- Review Riva system abilities to sync to IT GIS systems

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**Research & Analysis**

Gartner Research Recommendation – Research Conducted; Nothing Found

**Benefits**

*See Return on Investment (ROI) Analysis Document*

**Impact**

<b>Number of Users</b>	20+
<b>Divisions</b>	Oakland County Water Resources Commissioner's Office
<b>Leadership Groups</b>	Land

**Risk**

<b>Business Environment</b>	Low	-	Little or no impact to existing business processes.
<b>Technical Environment</b>	Low	-	Little or no impact to existing business processes.

**Assumptions**

**Staffing**

None

**Facilities**

None

**Technical**

- The additional State Zeros will utilize the same process as the currently monthly State Zero process

**Funding**

- WRC SAW GRANT – COMMON TO ALL

Individual billing information to be determined:

- |  |                |
|--|----------------|
| • WRC SAW Keego SDS SAW Grant            | October, 2018  |
| • WRC SAW Bloomfield Hills SDS SAW Grant | November, 2018 |
| • WRC SAW Franklin SDS SAW Grant         | January, 2019  |
| • WRC SAW Augusta Drain SAW Grant        | February, 2019 |
| • WRC SAW Henry Graham Drain SAW Grant   | March, 2019    |

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- |  |                 |
|--|-----------------|
| • WRC SAW CO SDS SAW Grant                 | September, 2019 |
| • WRC SAW Edwards Drain SAW Grant          | October, 2019   |
| • WRC SAW Farmington Hills SDS SAW Grant   | November, 2019  |
| • WRC SAW Oakland Township SDS SAW Grant   | January, 2020   |
| • WRC SAW Royal Oak Township SDS SAW Grant | February, 2020  |
| • WRC SAW CAMP Drain Equipment Fund (CTA)  | March, 2020     |
| • WRC SAW CAMP Drain Equipment Fund (CTA)  | September, 2020 |

**Other**

- PM & Contingency considerations included in each of the twelve (12) State Zero events.

**Priority**

- TBD

**Constraints**

- N/A

**Exclusions**

- N/A

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**PROJECT PHASE AUTHORIZATION**

<b>Phase(s): Project Management and State Zero</b>	
<b>Total Estimated Application Services</b>	<b>Hours: 739</b>
<b>Total Estimated Technical Systems</b>	<b>Hours: 48</b>
<b>Total Estimated CLEMIS</b>	<b>Hours:</b>
<b>Total Estimated Internal Services</b>	<b>Hours:</b>
<b>IT Application Services Division Manager Approval:</b>	<b>Date:</b>
<b>IT Technical Systems Division Manager Approval:</b>	<b>Date:</b>
<b>IT CLEMIS Division Manager Approval:</b>	<b>Date:</b>
<b>IT Internal Services Division Manager Approval:</b>	<b>Date:</b>
<b>IT Management Approval:</b>	
Approved:                      Yes                      No	<b>Date:</b>
Reason:	
<b>Project Sponsor Approval:</b>	
Title:	<b>Date:</b>

**PROJECT SUMMARY**

<b>Authorized Development (see above)</b>	<b>Hours: 787</b>	
<b>Previously Approved Development</b>	<b>Hours:</b>	
<b>Grand Total Estimated Development</b>	<b>Hours: 787</b>	<b>Cost: \$ 129,855</b>

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**PROJECT COMPLETION AUTHORIZATION**

<b>Customer Acceptance of Product:</b>	
Title:	Date:
<b>Project Office Review:</b>	Date:

WRC Asset Optimization Phase III - Size Estimate (+/- 10% to 50%)

1	Type	ID	Task Name	Estimated	Estimate Notes
2				Hours	
3	<b>3</b>	<b>000000</b>	<b>PROJECT MANAGEMENT</b>	<b>43</b>	
4	<b>Phase</b>	<b>030000</b>	<b>STATE ZERO</b>	<b>684</b>	
5	<b>Phase</b>	<b>060000</b>	<b>ADDITIONAL SCHEMA CHANGES</b>	<b>60</b>	
6				787	

**WRC Asset Optimization Phase III**

Return on Investment Analysis

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Benefits/Savings:</b>							
Tangible Benefits Subtotal:	0	0	0	0	0	0	0
Cost Avoidance Subtotal:	0	0	0	0	0	0	0
<b>Costs:</b>							
Development Services Subtotal:	129,855	0	0	0	0	0	129,855
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
<b>Annual Statistics:</b>							
Annual Total Savings	0	0	0	0	0	0	0
Annual Total Costs	129,855	0	0	0	0	0	129,855
Annual Return on Investment	(129,855)						(129,855)
Annual Costs/Savings Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
<b>Project Cumulative Statistics:</b>							
Cumulative Total Savings	0	0	0	0	0	0	0
Cumulative Total Costs	129,855	129,855	129,855	129,855	129,855	129,855	129,855
Cumulative Return on Investment	(129,855)	(129,855)	(129,855)	(129,855)	(129,855)	(129,855)	(129,855)
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?							
<b>Signatures:</b>							
Benefits Reviewed By Project Sponsor	_____			Date:	_____		
Costs (including IT Resources) Reviewed By Information Technology Project Manager	_____			Date:	_____		







**WRC Asset Optimization Phase III**  
Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Tangible Benefit:</b>							
<i>Tangible Benefits Subtotal:</i>							
<b>Cost Avoidance:</b>							
<i>Cost Avoidance Subtotal:</i>							
<b>Intangible Benefit:</b>							
Make better business decisions for the county water, sewer and storm infrastructure by utilizing more current asset data							
Utilize more frequently updated data collected with current asset management system in long term capital asset management and planning							
<b>Savings Total:</b>							

**WRC Asset Optimization Phase III**  
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	
								Y1	Y2	Y3	Y4	Y5	Y6		
IT Hours - New Development	Development Svcs			787	165	129,855		X							129,855.00
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				687	0									
PC System - Maintenance	Hardware				2,936	0									
Notebook - Acquisition	Hardware				1,115	0									
Notebook - Maintenance	Hardware				3,024	0									
Tablet Notebook - 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					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									
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure				24,533	0									

**WRC Asset Optimization Phase III**  
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
								Y1	Y2	Y3	Y4	Y5	Y6	
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								
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								

**WRC Asset Optimization Phase III**  
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
								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								
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								
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								

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Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?						Y1
								Y1	Y2	Y3	Y4	Y5	Y6	
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								

**WRC Asset Optimization Phase III**  
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions				
		Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	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					
PC Maintenance User Owned	Hardware					
Printer Maintenance User Owned	Hardware					
File Space (100GB)	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					
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure					

**WRC Asset Optimization Phase III**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions				
		Y2	Y3	Y4	Y5	Y6
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					
Websphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure					
Websphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure					

**WRC Asset Optimization Phase III**

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions				
		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					
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					
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					



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Return on Investment Analysis

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

**WRC Asset Optimization Phase III**  
Return on Investment Analysis

Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
<b>Development Services:</b>							
IT Hours - New Development	129,855						129,855
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>	<b>129,855</b>						<b>129,855</b>
<b>Hardware:</b>							
<i>Hardware Subtotal:</i>							
<b>Software:</b>							
<i>Software Subtotal:</i>							
<b>Infrastructure:</b>							
<i>Infrastructure Subtotal</i>							
<b>Training:</b>							
<i>Training Subtotal:</i>							
<b>Other:</b>							
<i>Other Subtotal:</i>							
<b>Costs Total:</b>	<b>129,855</b>						<b>129,855</b>

