Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: HydroDrain Conversion **Project ID: D97611HD**

Leadership Group: Land		
Department: Drain Commissioner's Office	**Division: Administration**	
Project Sponsor: Kevin Larsen	**Date Requested: 04-23-07**	**PM Customer No. 611**
Request Type:	***New Development***	
IT Team Name: Land Implementation Services	**IT Team No: 9**	
Project Manager/Leader: Marc Groder		
Account Number: TBD	**Account Description:**	**Customer Name:** OCDC
Grant Funded? Yes X No	**Mandate? Yes X No** **Mandate Source: N/A**	

Project Goal

To complete the GIS infrastructure conversion project started in 2001, by transferring the remainder of the conversion project from a vendor to a cooperative in-house conversion project between Land Management Technologies and OCDC so that hydrography and drain data will be fully integrated in a GIS format.

Business Objective

To migrate AutoCAD and hand-drawn drain maps to a GIS format while integrating the countywide hydrography GIS data.

Major Deliverables

- Detailed Project Plan, including Hydro dataset migration
- Conversion Rules
- Attribute Migration Plan
- Implementation Plan
- HydroDrain Dataset
- Metadata
- Dataset Maintenance Guide and Checklist

Approach

- Develop Detailed Project Plan
  - Migration of the Hydro dataset
  - Migration of GPS data
  - Pilot drain conversion
- Migrate the HydroDrain model to the test environment, updating as necessary to integrate with the existing water and sewer datasets
- Migrate model from test to production environment
- Document Conversion Rules based on pilot conversion
- Develop plan to migrate existing SQL attribution to SDE
- Finalize Implementation Plan
- Train editors and convert drain data to GIS
- Migrate attribution, SQL to SDE
- Create Metadata
- Produce final outputs for internal and external users
- Determine and implement appropriate access to digital dataset
- Create Dataset Maintenance Guide and Checklist
- Retire/replace previous maps and redundant data

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users:

300

Divisions:

Drain Commissioners Office Administration

Drain Commissioners Office Operations & Maintenance

Drain Commissioners Office Engineering & Construction

Planning and Economic Development

Leadership Groups:

Land

Risk

Business Environment

Low. Little or no impact to existing business processes.

Technical Environment

Low. Proven and previously implemented technologies.

Assumptions

Staffing

IT Staff: Resources will be available for the hours indicated per the attached project plan.

OCDC Staff: Resources will be available for the hours estimated below:

OCDC Role:	Name	Hours per Day
Project Sponsor:	Kevin Larsen	As needed
Project Manager	Jenny Shaw	2.0
Conversion Supervisor	Les Chrysler	6.0
Drain Pilot/Conversion Oversight	David Sundwall	As needed
Editors	Dawn Cooper	8.0
	Julie Gianfermi	
	Chris Hamilton	
	Debra Pousho	
QA/QC Staff	Steve Erickson	8.0
	Sharlene Watson	

Facilities

Both IT and OCDC staff will make use of their own facilities; joint meeting location will be OCDC.

Technical

HydroDrain data model was created by vendor (Woolpert LLC) in 2006 and has been

delivered to Oakland County. Existing test/production server environment was previously sized to accommodate the HydroDrain dataset. Previous conversion of water and sanitary/combined sewer datasets has created an existing team of trained data conversion technicians.

Funding

Drain Commissioner's Office.

Other

Coordination with the Department of Information Technology will be required to ensure the smooth migration of the Hydro dataset and well as a successful transition of all maintenance functions.

Priority

TBD

Constraints

Successful completion of this project assumes sufficient time will be spent by the Drain office working through requirements and validating the model.

Exclusions

N/A

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Project Name: HydroDrain Conversion **Project ID: D97611HD**

PROJECT PHASE AUTHORIZATION

Phase(s): Project Management, Validation, SDE Load, Arc Hydro, Metadata			
Total Estimated Application Services	**Hours: 673**	**Cost:**	**$82,106**
Total Estimated Technical Systems	**Hours:**	**Cost:**	
Total Estimated eGovernment Services	**Hours:**	**Cost:**	
Total Estimated CLEMIS	**Hours:**	**Cost:**	
Total Estimated Internal Services	**Hours:**	**Cost:**	

IT Application Services Division Manager Approval:	**Date:**
IT Technical Systems Division Manager Approval:	**Date:**
IT eGovernment Services 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: 673**	**Cost:**	**$82,106**
Preliminary Estimated Development for Future Phases	**Hours:**	**Cost:**	
Grand Total Estimated Development	**Hours: 673**	**Cost:**	**$82,106**

PROJECT COMPLETION AUTHORIZATION

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

Project Name: HydroDrain Conversion **Project ID: D97611HD**

Phase	000000	PROJECT MANAGEMENT	155	$18,910.00
Phase	010000	VALIDATION	142	$17,324.00
Phase	020000	SDE LOAD	55	$6,710.00
Phase	030000	ARC HYDRO	202	$24,644.00
Phase	040000	METADATA	119	$14,518.00
			673	$82,106.00

D97611HD

Oakland County -- HydroDrain Conversion Project

Return on Investment Analysis

As Of: April 11, 2007

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Benefits/Savings:							
Tangible Benefits Subtotal:	2,557	2,557	2,557	2,557	2,557	2,557	15,342
Cost Avoidance Subtotal:	50,378	0	0	0	0	0	50,378
Costs:							
Development Services Subtotal:	240,322	0	0	0	0	0	240,322
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	52,935	2,557	2,557	2,557	2,557	2,557	65,720
Annual Total Costs	240,322	0	0	0	0	0	240,322
Annual Return on Investment	(187,387)	2,557	2,557	2,557	2,557	2,557	(174,602)
Annual Costs/Savings Ratio	453.99%	0.00%	0.00%	0.00%	0.00%	0.00%	
Project Cumulative Statistics:							
Cumulative Total Savings	52,935	55,492	58,049	60,606	63,163	65,720	65,720
Cumulative Total Costs	240,322	240,322	240,322	240,322	240,322	240,322	240,322
Cumulative Return on Investment	(187,387)	(184,830)	(182,273)	(179,716)	(177,159)	(174,602)	(174,602)
Cumulative Cost/Savings Ratio	453.99%	433.08%	414.00%	396.53%	380.48%	365.68%	365.68%
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: _____						
Costs (including IT Resources) Reviewed By Technical Services Manager	Date: _____						

Oakland County -- HydroDrain Conversion Project
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	Affects Project ROI? Y1	Y2	Y3	Y4	Y5	Y6	Potential Savings Extensions Y1	Y2	Y3	Y4	Y5	Y6
Eliminate vendor services by internal conversion	Cost Avoidance		ANN	1	50,378	50,378		x						50,378					
Eliminate two (2) AutoCAD licenses	Tangible Benefit		EA	2	967	1,934		x	x	x	x	x	x	1,934	1,934	1,934	1,934	1,934	1,934
Reduce copier demand (paper/ supplies) by 6%	Tangible Benefit		ANN	1	623	623		x	x	x	x	x	x	623	623	623	623	623	623
Printer/Plotter Replacement	Cost Avoidance					0													
Standardized infrastructure records management system	Cost Avoidance					0													
Improved maintenance of infrastructure, better control of data and data updates	Cost Avoidance					0													
Improve maintenance crew response time with current, spatial accurate datasets	Cost Avoidance					0													
Improved permit and inspection processes	Cost Avoidance					0													
Propogate effective, more accurate and informed decision making	Cost Avoidance					0													
Improved analysis possible because of digital nature of data	Cost Avoidance					0													
Improved financial reporting and GASB 34 compliance	Cost Avoidance					0													
Reduce time in accessing and providing data to both internal and external customers	Cost Avoidance					0													
Faster response to CVT, Engineering Firms, customers, etc. questions regarding infrastructure; improved complaint handling	Cost Avoidance					0													
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Oakland County -- HydroDrain Conversion Project

Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Tangible Benefit:							
Eliminate two (2) AutoCAD licenses	1,934	1,934	1,934	1,934	1,934	1,934	11,604
Reduce copier demand (paper/ supplies) by 6%	623	623	623	623	623	623	3,738
Tangible Benefits Subtotal:	***2,557***	***2,557***	***2,557***	***2,557***	***2,557***	***2,557***	***15,342***
Cost Avoidance:							
Eliminate vendor services by internal conversion	50,378						50,378
Cost Avoidance Subtotal:	***50,378***						***50,378***
Savings Total:	***52,935***	***2,557***	***2,557***	***2,557***	***2,557***	***2,557***	***65,720***

Oakland County -- HydroDrain Conversion Project
Return on Investment Analysis

As Of: April 11, 2007

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	Potential Cost Extensions Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs			673	122	82,106	1.040	X						82,106					
IT Hours - System Maintenance	Development Svcs				122	0													
User Hours - New Development	Development Svcs					158,216	1.040	X						158,216					
User Hours - PTNE/OT	Development Svcs					0													
Contractor Professional Services	Development Svcs					0													
PC System - Acquisition	Hardware					0													
PC System - Maintenance	Hardware				2,304	0													
Notebook - Acquisition	Hardware					0													
Notebook - Maintenance	Hardware				2,372	0													
Mini Notebook - Acquisition	Hardware					0													
Mini Notebook - Maintenance	Hardware				2,196	0													
Laserprinter 1 - Acquisition	Hardware					0													
Laserprinter 1 - Maintenance	Hardware				1,104	0													
Laserprinter 2 - Acquisition	Hardware					0													
Laserprinter 2 - Maintenance	Hardware				1,208	0													
Laserprinter 3 - Acquisition	Hardware					0													
Laserprinter 3 - Maintenance	Hardware				1,860	0													
Image Workstations - Acquisition	Hardware					0													
Image Workstations - Maintenance	Hardware				3,496	0													
Terminals - Acquisition	Hardware					0													
Terminals - Maintenance	Hardware				644	0													
PRTR w/TERM ID - Acquisition	Hardware					0													
PRTR w/TERM ID - Maintenance	Hardware				1,072	0													
PRTR w/o TERM ID - Acquisition	Hardware					0													
PRTR w/o TERM ID - Maintenance	Hardware				1,072	0													
PC Maintenance User Owned	Hardware				2,304	0													
Printer Maintenance User Owned	Hardware				1,072	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					0													
Server - Maintenance	Infrastructure					0													
Server Sftwre - Acquisition/Upgrade	Infrastructure					0													
Server Sftwre - Maintenance	Infrastructure					0													
TBD	Infrastructure					0													
TBD	Infrastructure					0													
TBD	Infrastructure					0													
TBD	Infrastructure					0													
Internet Access	Infrastructure				180	0													
Project Staff Training	Training					0													
User Training	Training					0													
						0													
						0													
						0													
						0													
						0													

Oakland County -- HydroDrain Conversion Project

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	82,106						82,106
	IT Hours - System Maintenance							
	User Hours - New Development	158,216						158,216
	User Hours - PTNE/OT							
	Contractor Professional Services							
	Development Services Subtotal:	***240,322***						***240,322***
Hardware:								
	Hardware Subtotal:							
Software:								
	Software Subtotal:							
Infrastructure:								
	Infrastructure Subtotal							
Training:								
	Training Subtotal:							
Other:								
	Other Subtotal:							
Costs Total:		***240,322***						***240,322***

Oakland County -- HydroDrain Conversion Project

Return on Investment Analysis

Assumptions

Date	Assumption Description
05-Apr-07	No contractor services required for conversion. All work provided by either OCDC or IT staff
05-Apr-07	Expect to save 6% of large format printer costs; currently utilizing $10,383 annually (based on two year average).
05-Apr-07	External conversion quoted at $290,700; Internal conversion estimated at $240,322