

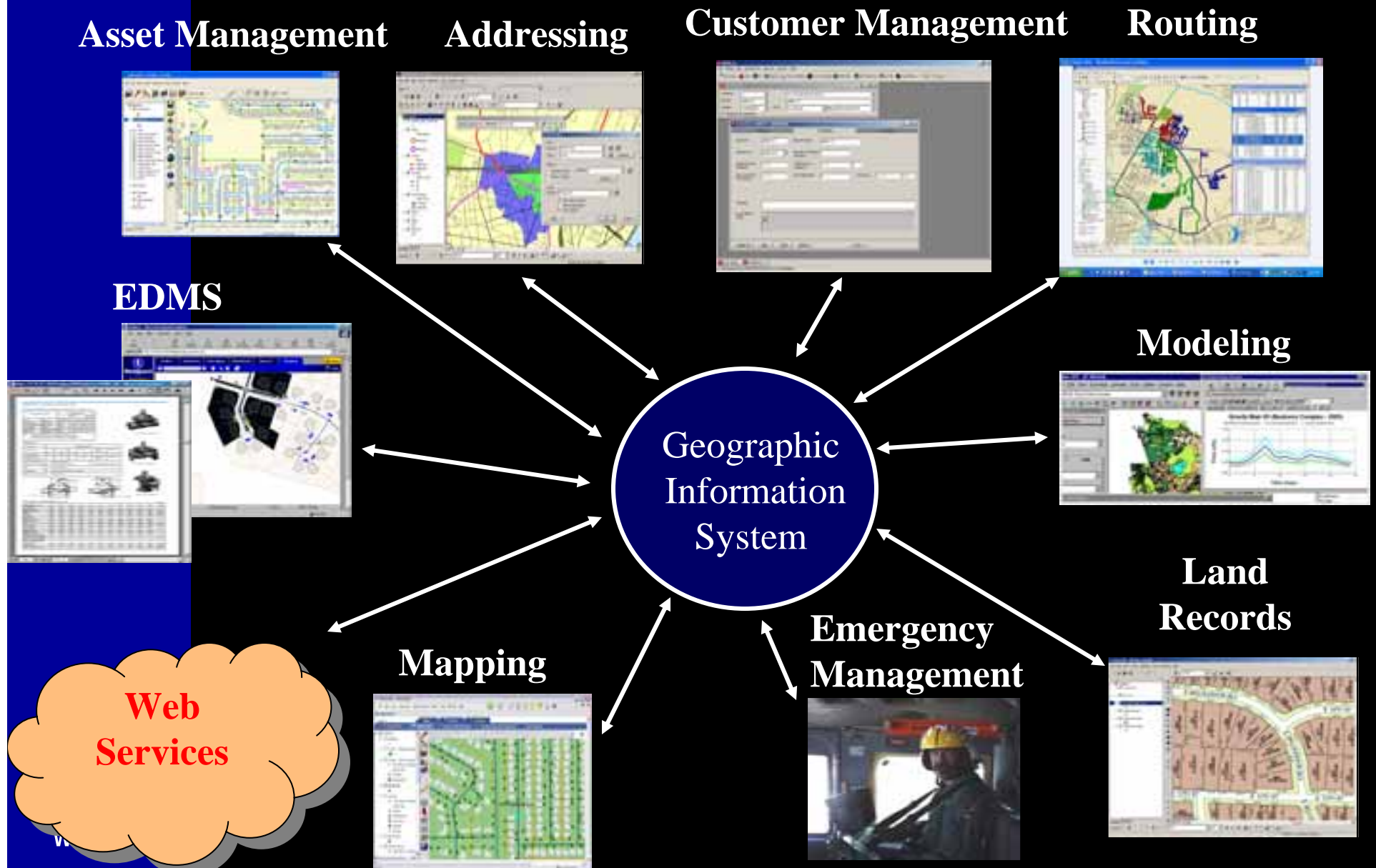
Enterprise Information Management Services – Berkeley County Data Integration Study



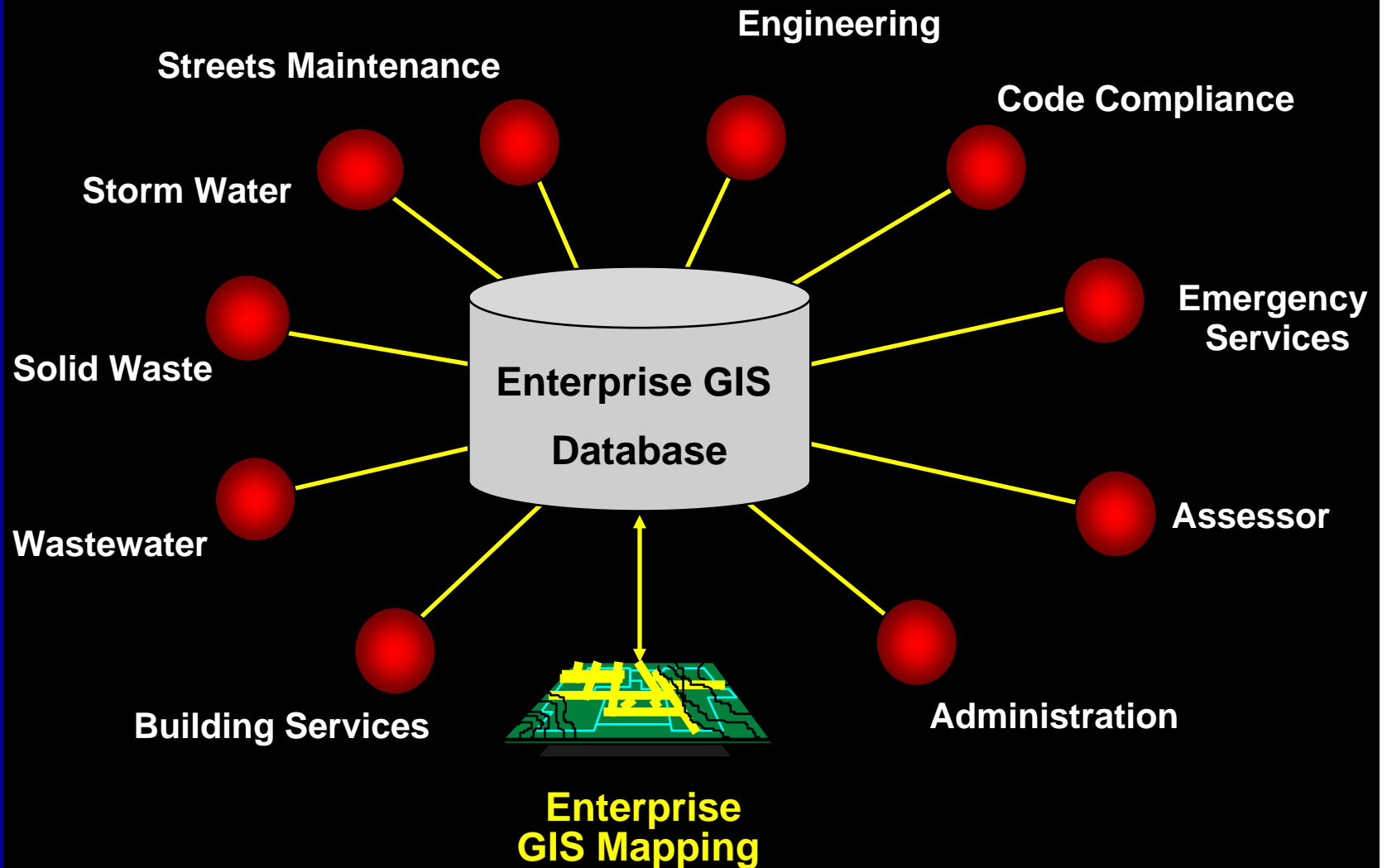
Berkeley County, S.C.



The Goal – Interoperability and



Integration!



Setting the Bar

Focus:

- Engineering
- Planning and Zoning
- Assessor's Office
- Permitting
- GIS
- Codes Enforcement
- Roads and Bridges
- Information Technology
- Emergency Management

What Are the goals?

- CUSTOMER SERVICE – get it right, get it fast
- No redundant data/software/hardware cost
- No duplication of data maintenance
- Data access – data confidence
- Opens the door for additional solutions:
 - Additional data collection
 - Standards with enforcement
 - Emergency services
 - Data maintenance
 - Information integration

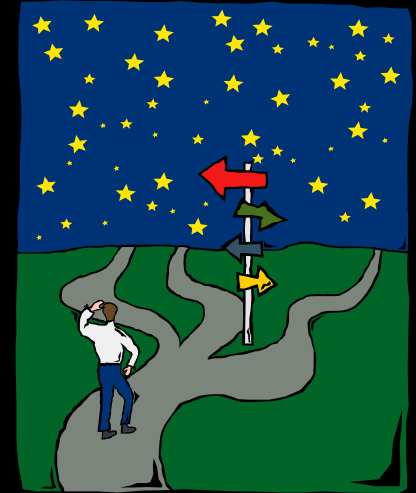


Criteria

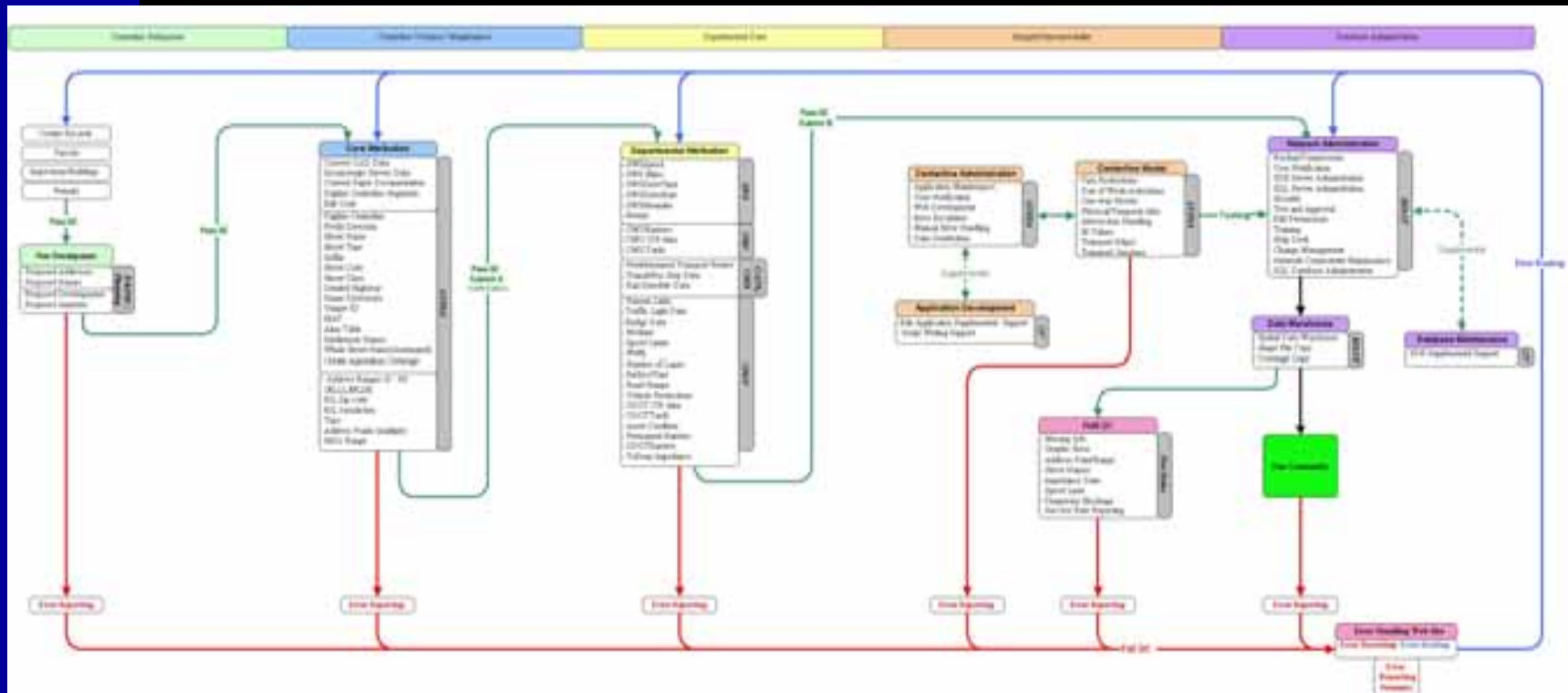
- Non-redundant feature data storage
- Non-proprietary feature data model
- Interoperable
- Feature data coordinate location and connectivity
- GIS savvy tools for editing and data creation

Providing Solutions

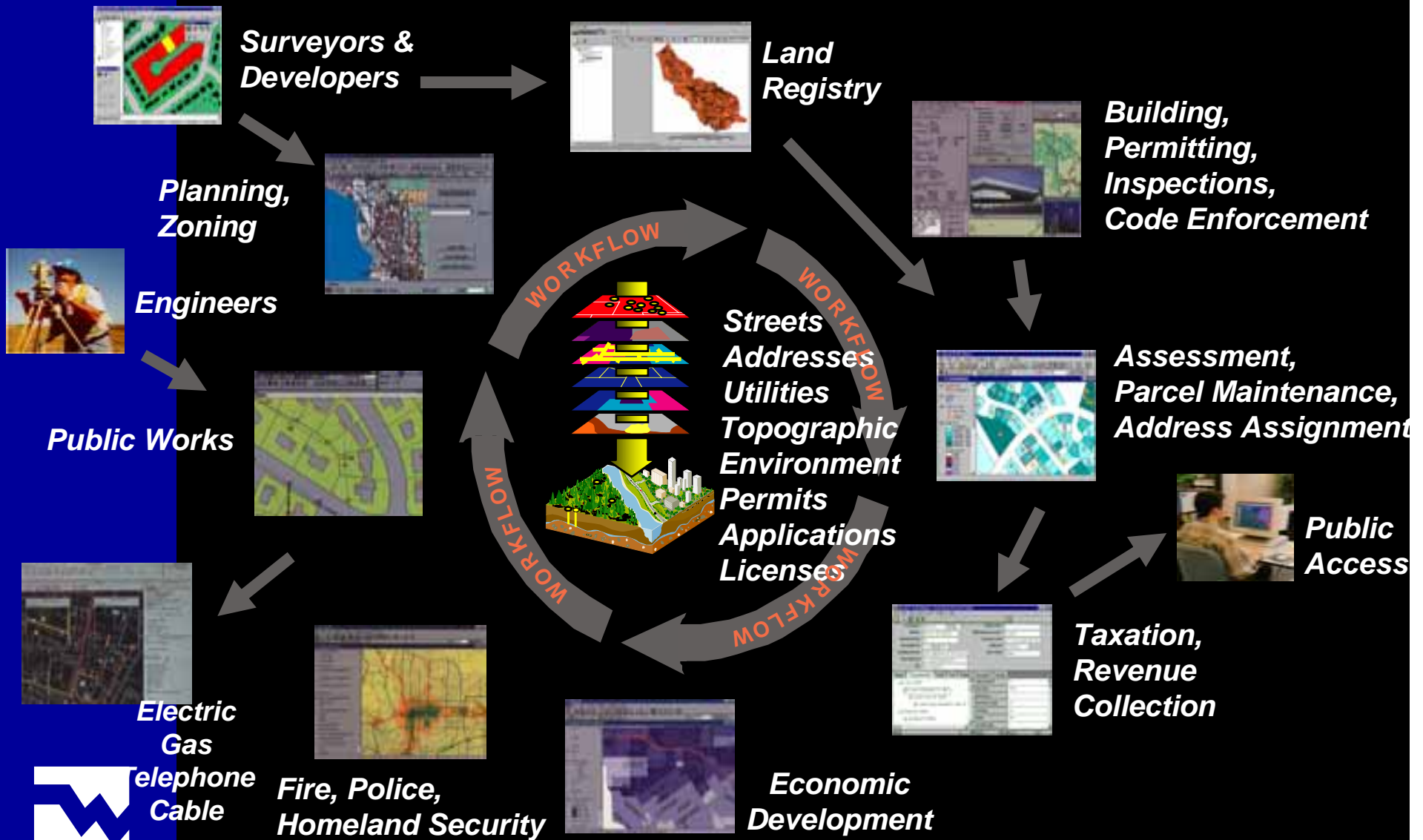
- Increase Access to Information
- Increase Management Tools
- Flexible Systems
- Provide Integrated Data
- Streamline Business Processes
- Maximize Investments in Technology



Step One: Organize and Prioritize



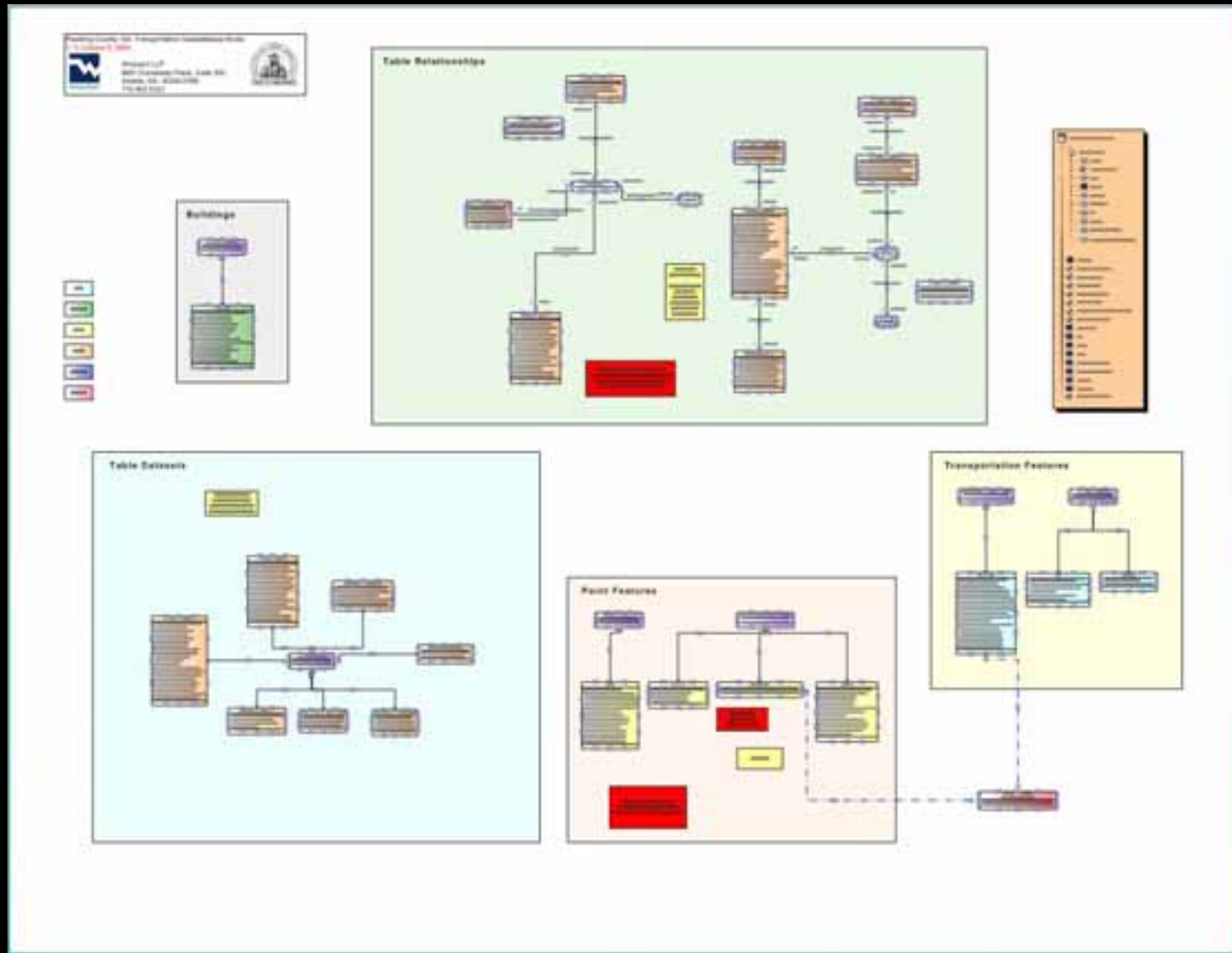
Land Records as a Foundation



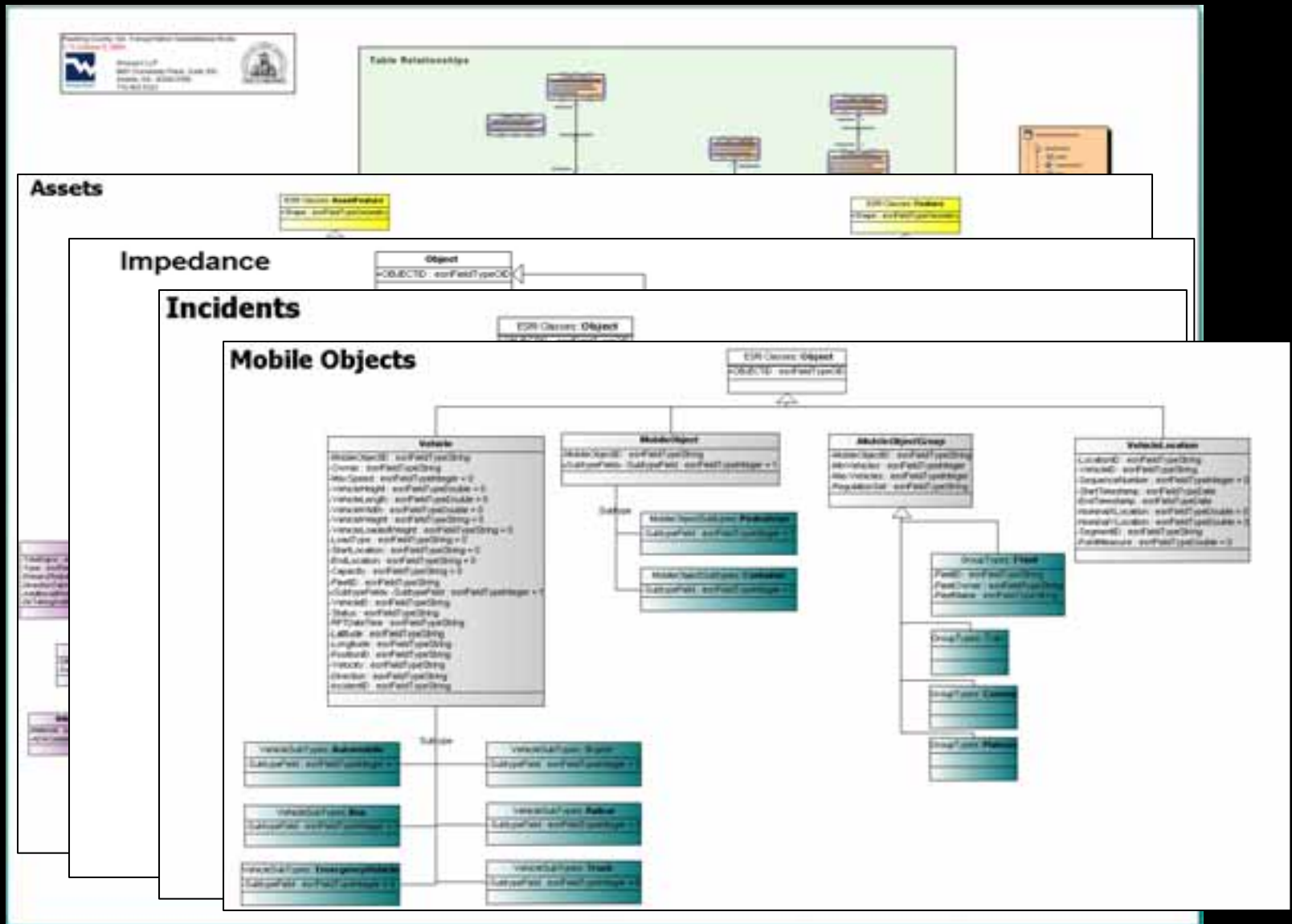
Major Issue - Data, Data, Data



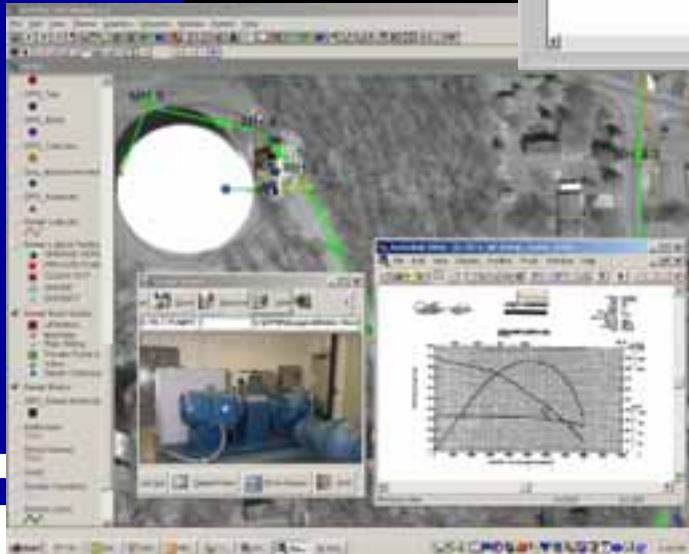
Database Design



Big Issue Two: Streets & Addresses

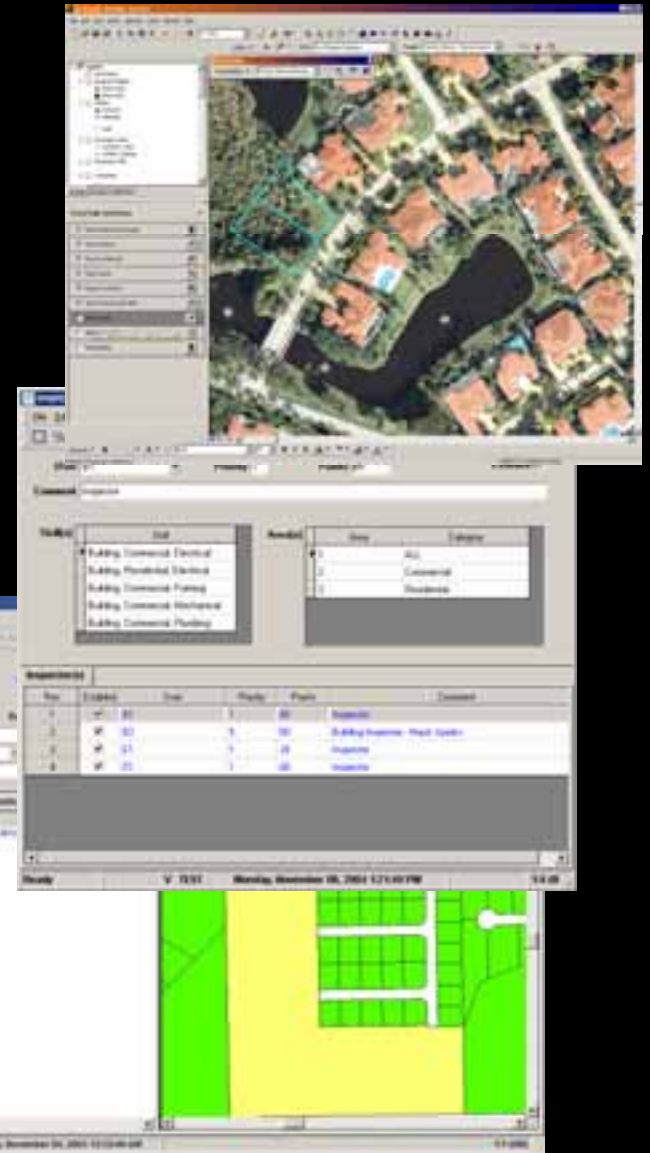


Application Implementation



Land Records Management

- Permitting
- Inspections
- Zoning Case Management
- Code Enforcement
- Contractor Licensing
- Subdivision Approval



Permitting

The screenshot shows a permitting software interface with several tabs and sections. Red circles highlight the 'Building Detail' tab, the 'Plans/Docs' tab, and the 'License Info' tab. Red text questions are overlaid on the interface.

Building Detail Tab:

- Building ID: [Empty]
- Submitted Value: \$230,000
- Calculated Value: [Empty]
- Structure Type: Res - Single Unit Dwelling
- Activity: New Construction
- Mobile Home: [Empty]
- Detached: 1
- Duplex: [Empty]
- Row: [Empty]
- Apt. 1BR: [Empty]
- 2BR: [Empty]
- 3BR: [Empty]
- Other Units: [Empty]
- Total Units: 1
- # of Floors: 2
- In Parking: 1.00000
- Out Parking: 2.00000
- Site Area: 225.432
- Gross Floor Area: [Empty]
- Structure Area: [Empty]
- Other %: [Empty]
- Other Area: [Empty]
- Water: Prop
- Sanitary: Prop

Plans/Docs Tab:

Type	Date	Plan No.	# of Copies	Plan Location	Location Date	Description	Number	Creator
P-Complete Building Plans	4/25/2004	P-301	1	Bin 2	4/25/2004	Preliminary building plans	490	Mat Archibald
P-Suite or Tenant space numbers		P-302						
P-Specifications		P-303						
P-Building Code Summary								
D-Owner Authorization	4/27/2004							Laure Morrison

License Info Tab:

- Number: [Empty]
- Expiry Date: 12/31/2003
- Duration: [Empty]
- Type: Builder
- Status: Revoked
- Renewal: Annual
- Qualifications: [Empty]
- Identifier: [Empty]
- Type: Local License
- Description: [Empty]
- Expiry Date: [Empty]

Input Tasks:

- Task Type: REVIEW
- Priority: HIGH
- Required Approval: [Empty]
- Revised Plans: [Empty]
- Status: ASSIGNED

Client Information:

- Client ID: 423-7777
- Finance ID: [Empty]
- Title Prefix: [Empty]
- First Name: MATTHEW
- Middle Name: [Empty]
- Last Name: ARCHIBALD
- Title Suffix: III
- Corporate Name: Archibald Arch's
- Street Type: Street
- Suffix Dir.: [Empty]
- Municipality: Monticello
- Create Date: 7/2/2003
- Fax: [Empty]
- Email: marchibald@aarchi.net
- Web Site: archibaldsarchi@aol.com

Task Details:

- Order: 6
- Assigned Date: 4/25/2004 2:05:21 PM
- Assigned By: tony
- Scheduled Finish: 5/3/2004
- Actual Start: [Empty]
- Actual Finish: [Empty]
- Comment List: [Empty]
- Comment: [Empty]
- Reminder: [Empty]
- Complete: [Empty]

Questions:

- Can we verify with a picture?
- Are digital plans attached?
- Is their license current?

Inspections

INSPECTOR: Inspector Setup Viewer

File Edit Data Tools Window Help

User: B1 Priority: 1 Points: 60

Comment: Inspector

Skill(s)	Skill	Area(s)	Area
	Building, Commercial, Electrical		1
	Building, Residential, Electrical		2
	Building, Commercial, Framing		3
	Building, Commercial, Mechanical		
	Building, Commercial, Plumbing		

Inspector(s)

Rec	Enabled	User	Priority	Points	Comment
1	<input checked="" type="checkbox"/>	B1	1	60	Inspector
				60	Building Inspector - Mack S...
				24	Inspector
				60	Inspector



Code Enforcement

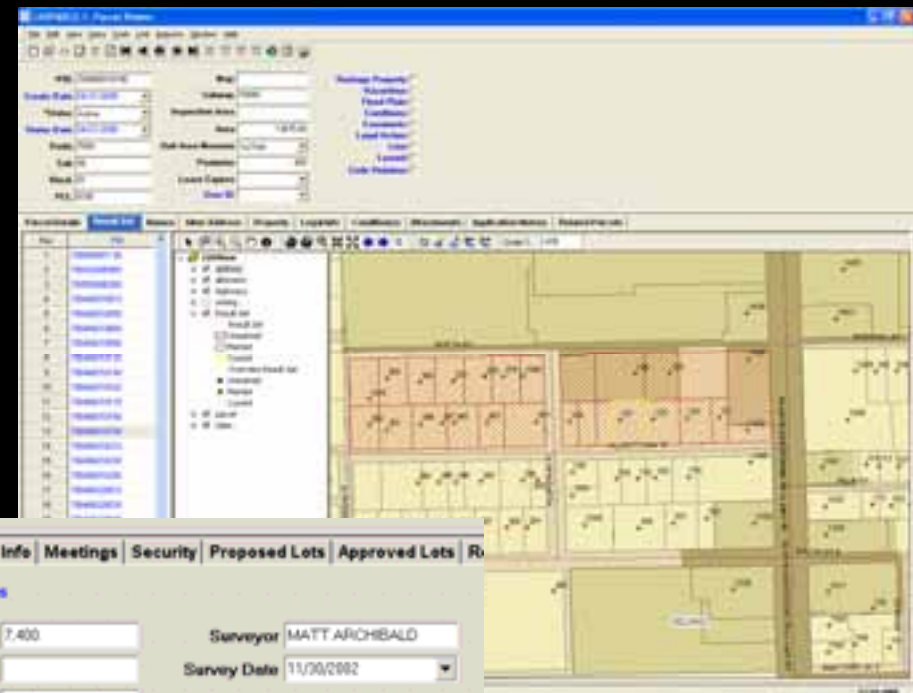


Result Set	Case Details	Case Notes	Court Proceedings	Vehicle Info	Fees	Name	Attachments	Tasks	Planning Info	Parcel	Address	Related Application
Number	Task Type	Activity	Priority	Required Approval	Revisions	Status	Scheduled Start					
35		Inspect - Complaint	HIGH			VIOLATION	11/28/2002					
36	ISSUE PERMIT		HIGH			ASSIGNED	11/28/2002					

Result Set	Case Details	Case Notes	Court Proceedings	Vehicle Info	Fees	Name	Attachments	Tasks	Planning Info	Parcel
In...	Case Detail #	Staff	Department	Notes	Date					
...		Demo User	Building Inspector	A PROPERTY OWNER IN THE AREA REPORTED TH	11/27/2002					

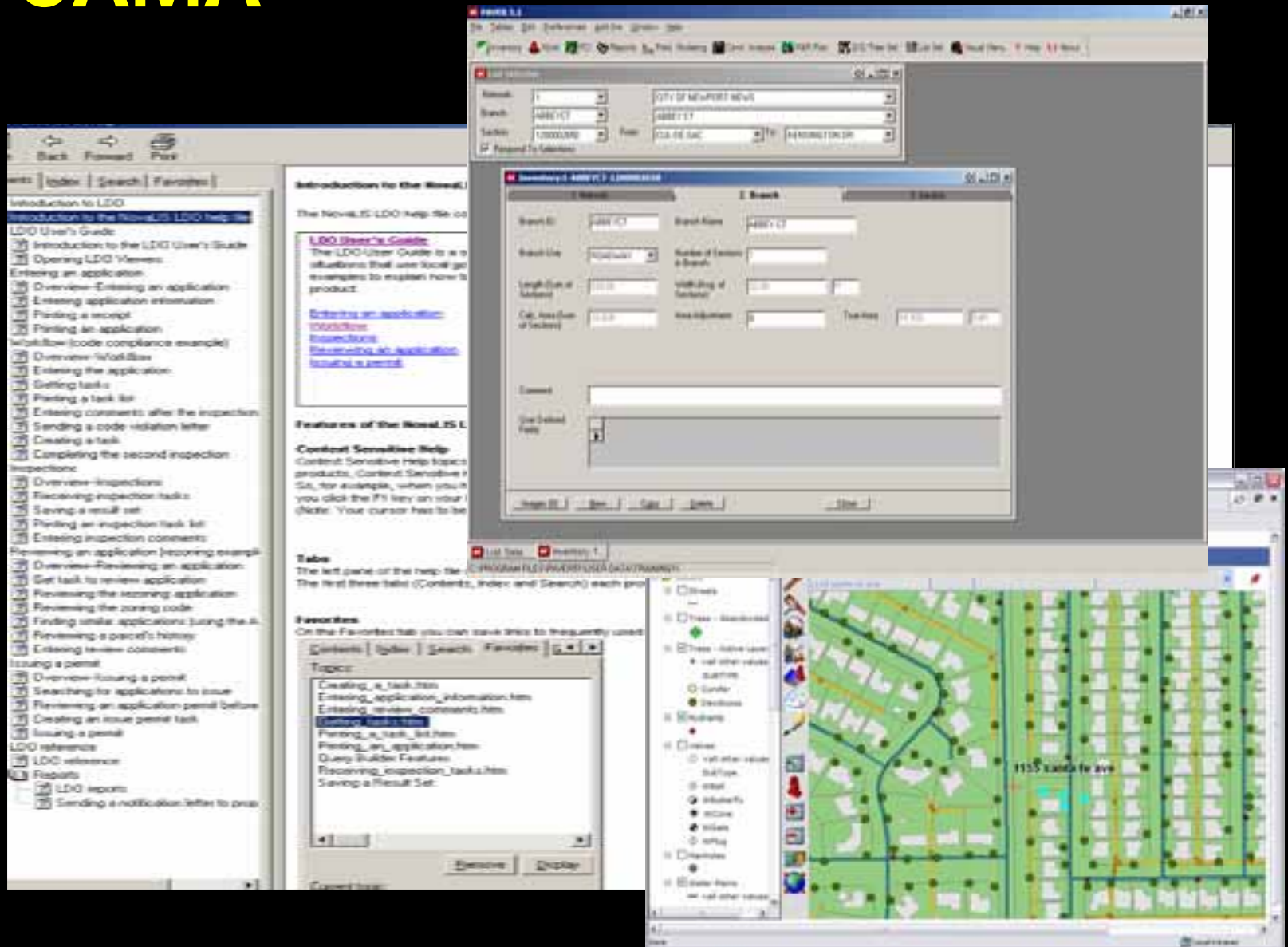
Zoning

Instructions	Review subdivision application for zoning discrepancies.		Number		Status	In Progress
Comment List	Yes		Date	11/05/2002 8:45	Staff ID	Demo User
Comment	Hold application until rezoning is approved and notification is complete with no appeals.		Type	Dev- Rezoning	Due Date	1/04/2003
			Project ID			
			Location		Alias	
			Description	REZONE FROM R1 TO R1 AND R2 TO PERMIT BUILDING A DUPLEX.		



Result Set	Name	Plans/Docs	Scope	Attachments	Fees	Tasks	Planning Info	Meetings	Security	Proposed Lots	Approved Lots	R
<div> <div> Existing Metrics <p>Site Area: 225,437</p> <p># Lots: 1</p> <p># Buildings: 1</p> <p># Units: 1</p> <p>Floor Area: 2,400</p> </div> <div> Proposed Metrics <p>Phase 1: </p> <p># Lots 2: </p> <p># Detached: 1</p> <p># Duplex: 1</p> <p># Row: </p> <p># Apartments: </p> <p>Proposed Use: Duplex Single Detached Dwelling</p> </div> <div> <p>Res Area: 7,400</p> <p>Ind Area: </p> <p>Comm Area: </p> <p>Open Space: </p> <p>Street Area: </p> <p>Other Area: </p> </div> <div> <p>Surveyor: MATT ARCHBALD</p> <p>Survey Date: 11/30/2002</p> <p>Registry File #: 379</p> <p>Registry Date: 11/30/2002</p> <p>Appealed Date: </p> </div> </div>												

CAMA



CMMS

Work Order Cost Summary

Work Order

File Tools

Save Print Costs Email Delete

General Details Attachments 25 Cycle Print

Description: Repair Gravity Man
 Entry Type: SGMMAIN
 Number: 46636
 Status: CLOSED Priority: 1 High
 Requested By: Coburn, Tom J
 Initiated By: Coburn, Tom J 4/3/2003 4:05:27 PM
 Submitt To: Methner, Joseph E 4/3/2003 4:05:49 PM
 Supervisor: Methner, Joseph E
 Proposed Start/Finish: 04/03/2003 MM/DD/YYYY
 Opened By:
 Completed By: Hamon, Timothy L
 Actual Start/Finish: 04/09/2003 04/11/2003
 Close Work Order Hamon, Timothy L 4/21/2003 8:20:01 A

General Location
 1037 FOREST BAY
 Locate
 Locate With S
 Locate With P

Comments Entries Instructions Map Layers

New Comments

Existing Comments

Submit To: Methner, Joseph E on 4/3/2003 4:05:49 PM by Coburn, Tom J
 By Coburn, Tom J on 4/3/2003 4:14:27 PM: Miss dig 30098585
 By Hamon, Timothy L on 4/10/2003 8:29:52 AM: On 4-9-03, tried to remove cement out of sewer main. Was able to break it up a little.
 By Hamon, Timothy L on 4/11/2003 3:40:28 PM: 4-10-2003, Tried to break up cement again out of sewer main, could not. Had Inland waters try, unsuccessful

Work Order Cost Summary

Overall Cost Summary

	Actual	Estimated (single)	Estimated (group)	Difference	Percent Difference
Labor	\$4,293.78	\$0.00	\$0.00	\$4,293.78	NA
Material	\$306.10	\$0.00	\$0.00	\$306.10	NA
Equipment	\$4,321.00	\$0.00	\$0.00	\$4,321.00	NA
Total	\$8,920.88	\$0.00	\$0.00	\$8,920.88	NA

Actual Labor

Name	Type	Group	Co.	Ra	H	Co
Fritz, William	Employee	Administration				
Fisher, Frank M	Employee	Administration				
Cassidy, Jim	Employee	Sewer				
Wallace, Keith	Employee	Administration				

Total: \$4,293.78

Estimated Labor

Name	Type	Gr	Cn	Ra	H	Co

Total (single): \$0.00 Total (group): \$0.00

Actual Material

Description	U	Source	S	Entry
8 inch Truss Pipe	10	Inventory	N	
8"X15" REPAIR CLAMP	2	Inventory	N	
6AA stone	5	Inventory	N	

Total: \$306.10

Estimated Material

Description	Units R	Cost	Source

Total (single): \$0.00 Total (group): \$0.00

Actual Equipment

Description	Hours Req	Units
1996 FORD VACTOR	8	1
DISTRIBUTION 1999	7	1
T V TRUCK 1998	9	1
DISTRIBUTION 1996	9	1

Total: \$4,321.00

Estimated Equipment

Description	Hours	Units	Rate

Total (single): \$0.00 Total (group): \$0.00

Permit Cost
 \$0.00

Copy to Excel

Name	Type	Group	Co.	Ra	H	Co
Gill, Allen M	Distribution	Hourly	1.00	4/9/2003	4/9/2003	
Vandoren, Derek J	Distribution	Hourly	1.00	4/9/2003	4/9/2003	
Ramirez, Joseph A	Distribution	Hourly	1.00	4/9/2003	4/9/2003	
Methner, Joseph E	Distribution	Hourly	6.00	4/10/2003	4/10/2003	
Hamon, Timothy L	Distribution	Hourly	6.00	4/10/2003	4/10/2003	
Gill, Allen M	Distribution	Hourly	6.00	4/10/2003	4/10/2003	
Westlake, Justin	Distribution	Hourly	6.00	4/10/2003	4/10/2003	
Butler, Todd	Engineering	Hourly	6.00	4/10/2003	4/10/2003	
Akkashian, Ara R	Engineering	Hourly	6.00	4/10/2003	4/10/2003	
Cassidy, Jim	Sewer	Hourly	6.00	4/10/2003	4/10/2003	

Start

Index - Micros... Microsoft Pow... ArcView GIS V... Work Order S... Work Order

2:55 PM

Mobile Applications

Wireless Drawing and Data Management

Complete Listing of Documents Related to Map Selection



A screenshot of a web application interface. At the top, there's a search bar with the text "Select complete project name". Below it is a table with columns: "Proj. #", "Sheet #", "Project Name", "Title", "Date", and "Rev.". The table contains several rows of data, including project numbers like 0001, 0002, 0003, and 0004, and sheet numbers like 1 of 4, 2 of 4, 3 of 4, and 4 of 4. The project names are related to "Watering Station and Water Regulating Station".

Proj. #	Sheet #	Project Name	Title	Date	Rev.
0001	1 of 4	Watering Station and Water Regulating Station	Watering Station - 1st & 2nd	Rev. 1, 2004	
0001	2 of 4	Watering Station and Water Regulating Station	Watering Station - 1st & 2nd	Rev. 1, 2004	
0001	3 of 4	Watering Station and Water Regulating Station	Watering Station - 1st & 2nd	Rev. 1, 2004	
0001	4 of 4	Watering Station and Water Regulating Station	Watering Station - 1st & 2nd	Rev. 1, 2004	

Field Documents



As-built Drawings



GIS-enabled Document Retrieval



Facility Operations Manuals

Data Viewing Tools

HBWS ArcIMS Application - Microsoft Internet Explorer provided by Honolulu Board Of Water Supply

HONOLULU ONLINE UTILITIES HONOLULU BOARD OF WATER SUPPLY

GIS Home SEARCHES SAVED VIEWS SERVICE INFO DOCUMENTS PRINT/REPORT

Choose your search method: **- Search By Tax Map Key -** Enter Tax Map Key: **11004035** **search** Welcome, Guest User
Tue, November 18, 2003

MAP LAYERS
More layers will become available depending on the current map scale

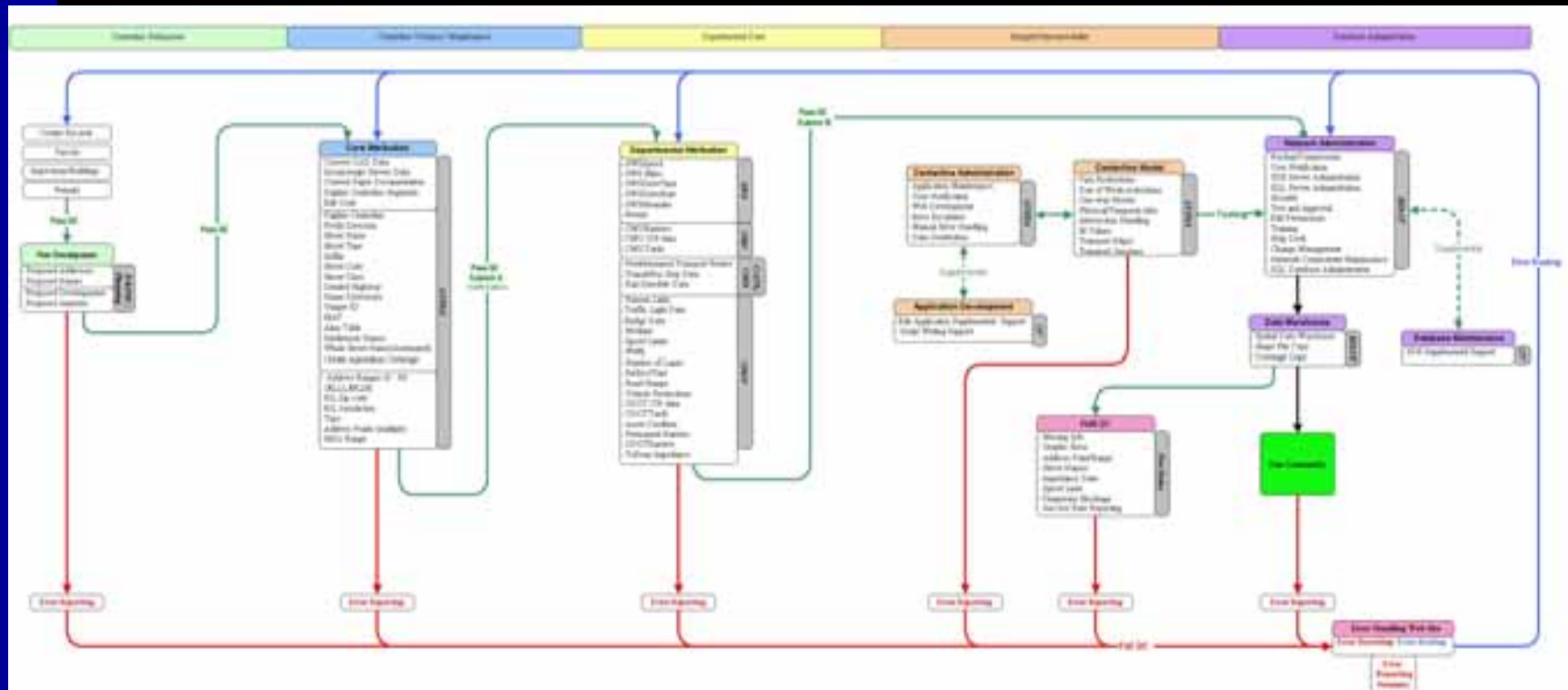
- [BWS Water System](#)
- [Base Information](#)
- [Projects](#)
- [Contours](#)
- [Other Utilities](#)
- [Aquifers](#)
- [Political Districts](#)
- [Land Information](#)
- [Roads and Streets](#)

Expand All **Collapse All**
Layer Information

Tax Map Key
To search by tax map key, type the tax map key value in the input box and click on the search button. When the parcel is located the "show all services" button will link you to the service information for selected parcel.
Example: 11004076

Zoom In Zoom to scale 1: 392065 Go BWS Facilities: **- ZOOM TO BWS FACILITY -** Parcels is now the Active Layer

But Workflow Is Key to Success



Measuring Success

- Build metrics to evaluate successes:
 - How does the new system improve business processes?
 - Are you able to utilize business processes perfected over many years in the new system?
 - How readily can the system respond to changes as they are needed?
 - Can you take advantage of other technologies and systems available in the County that you couldn't before?
 - Is core information more accessible? By how much?

Benefit: Accountability and Communication

- Shared Change Management
- Benefits:
 - Distributed change management
 - Shared accountability
 - Broad user representation
 - Defined process for making changes
 - Defined process for error escalation
 - Forum to review future changes and impacts
 - Potential regional coordination

Questions



Thank You

Jim Kiles

Jim.Kiles@Woolpert.com

704.907.5515

