

GIS in the Great Indoors: Facilities Management in Oakland County, MI



Esri UC 2016

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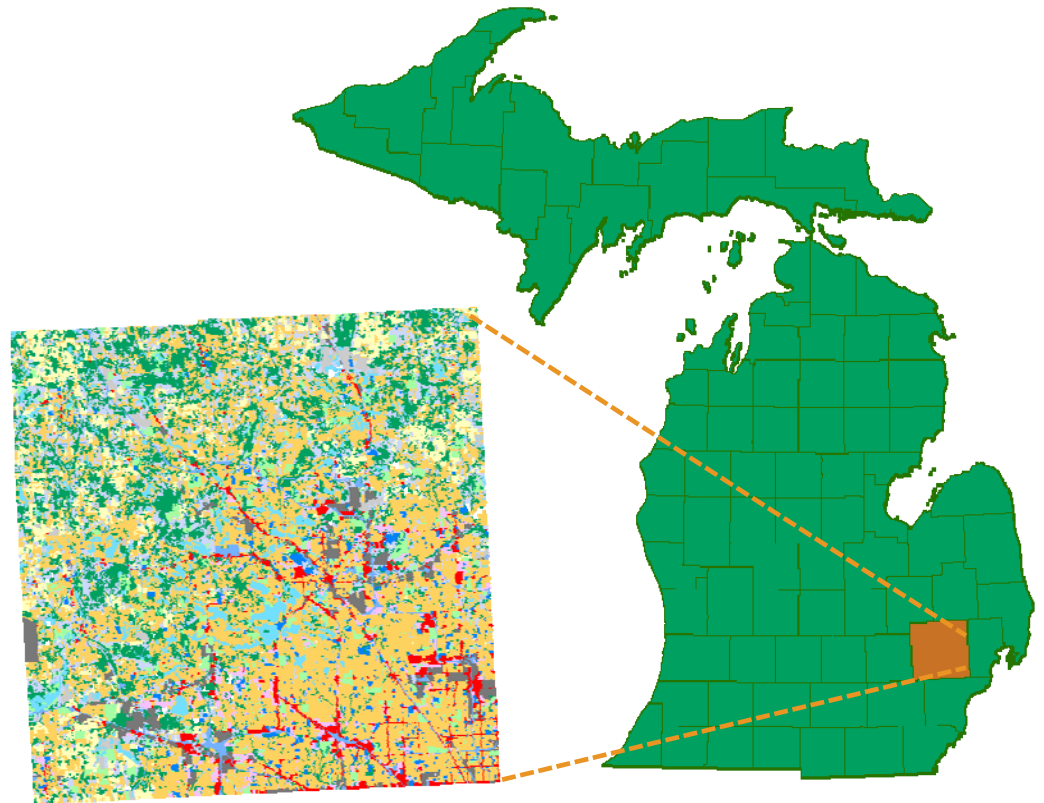
Topics



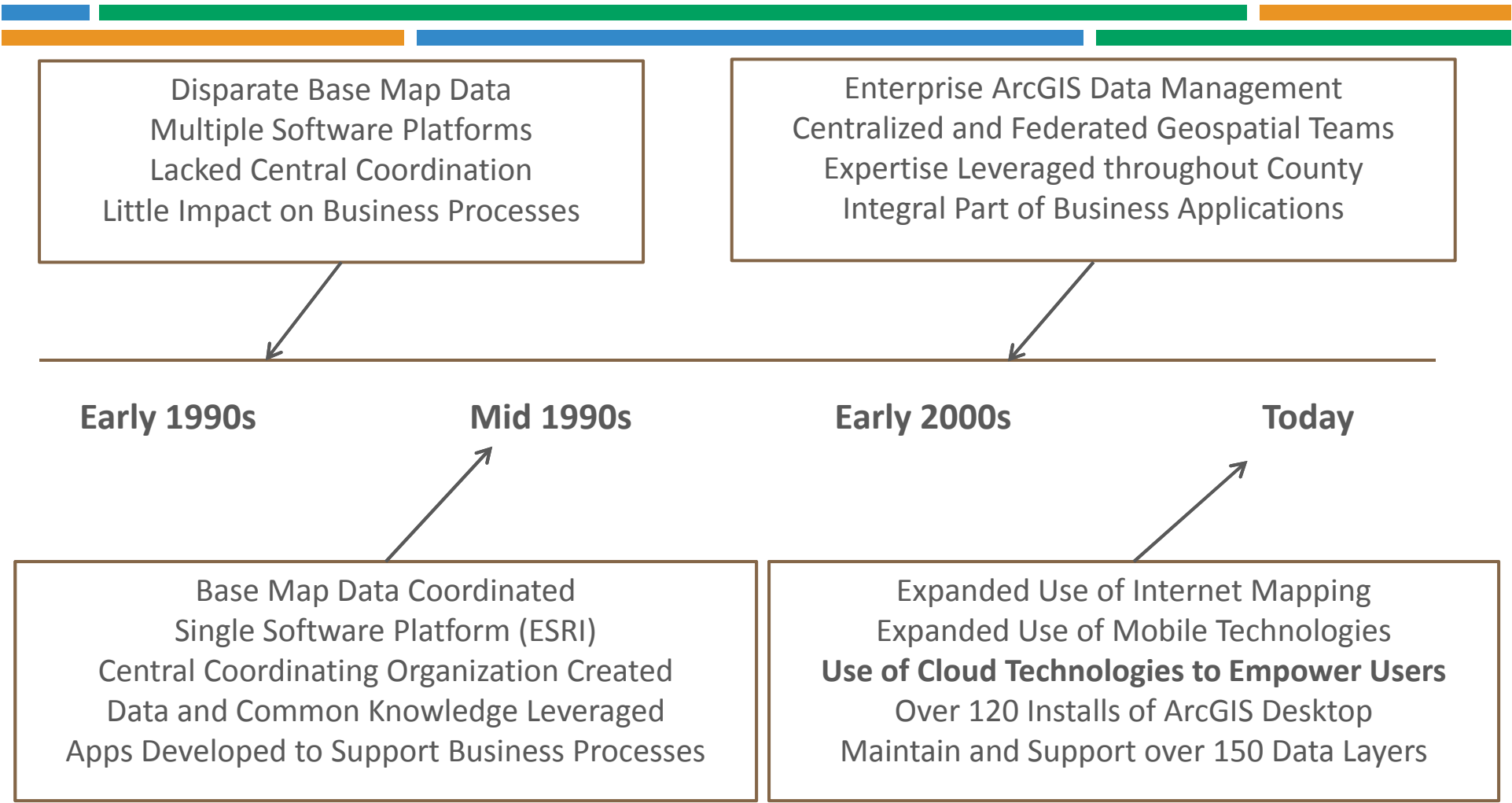
- Background
 - GIS @ Oakland County
 - GIS @ OCIT
- GIS for Facilities Management
 - Space Allocation

Background

- Population: 1.2 million
- 62 cities, villages, and townships (CVTs)
- 910 square miles
- Mixture of urban and rural landscapes



History of Oakland County GIS



Land Management Technologies

***Our mission** is to provide a progressive, location-based solution that promotes informed decision making, improves citizen services, and encourages collaboration across all levels of government.*



Support
decision-making
in Oakland County



Give citizens
access to
information



Reach anyone,
at any time, from
anywhere



Create & sustain
partnerships and
collaboration
opportunities



Foster a
sustainable
technological
environment in
Oakland County



Role of IT in GIS

- Maintaining the foundation on which departments, CVTs can build
- General GIS support for 12+ departments, Road Commission for Oakland County, Oakland Schools, and 62 CVTs
- Suggest solutions to meet department needs
- Manage project to implement the solutions
- Research new technologies
- Set program direction
- Software upgrades
- Complex application development
- Training
- User Groups

Facilities Management

Facilities:

- 46 Owned Facilities
- 5 Leased Facilities
- 1.9+ Million Square Feet maintained
- 80 Acres of Parking Lots
- 537 Acres of Land

Workforce:

- 165 Full-Time
- 27 Part-Time

Facilities Management

Along with Administration Offices and Support Services:

- Jails
- Probate, Circuit and District Courts
- Health Centers
- Information Technology Center
- Animal Shelter
- Children's Village Detention, Housing and School
- Child Care Center

Facilities Management

Primary Responsibilities

- Planning, design, construction, and renovation of facilities across multiple campuses
- Development and Administration of 5-year Capital Improvement Program and Maintenance of Special Projects
- Maintenance and Operation of facilities, including utilities, custodial, grounds, and departmental support services
- Energy Conservation Program
- **Allocation and management of space within facilities**
- Property Management

Facilities Management –Space Allocation

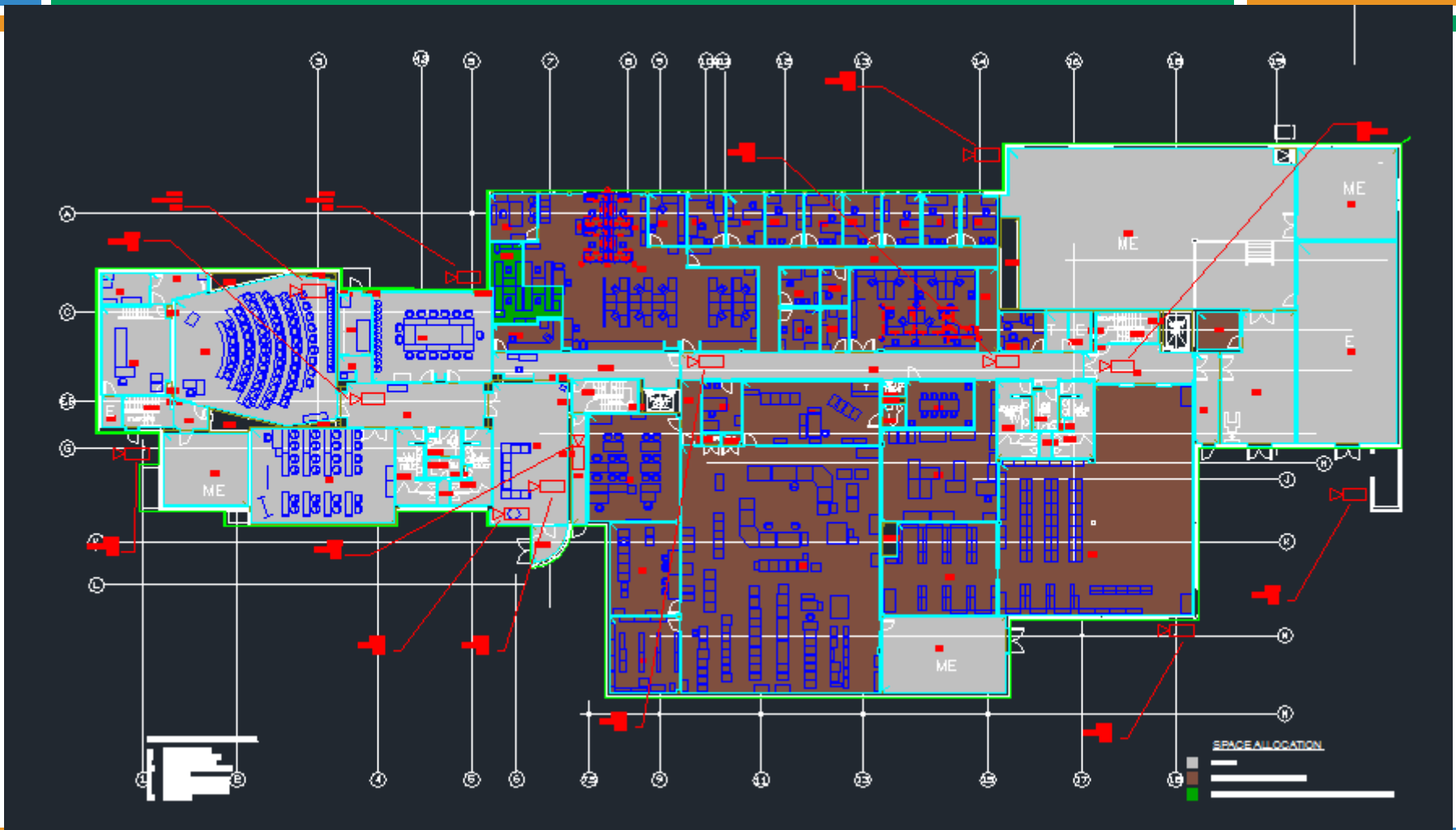


The Space Allocation Program is used to calculate and manage square footage rates used for department billing. ***FM&O's entire \$26 million dollar budget is recovered by these rates.***

The Previous Process

- CAD based, separate files per building.
- Space Allocation information is manually exported from AutoCAD to Excel for compiling.
- **No simple queries (ex - vacant space).**

The Existing Process



GIS for Facilities Space Allocation: Proof of Concept



Goal 1: Model Oakland County building interiors from FM CAD data

Goal 2: Use GIS data and Database Reporting to quickly query Space Allocation information

Georeference CAD Data

- 1: Establish and measure a known line in the CAD drawing.
- 2: Draw and position line in a 'Snap Lines' feature class.
- 3: Snap CAD drawing using the line endpoints.

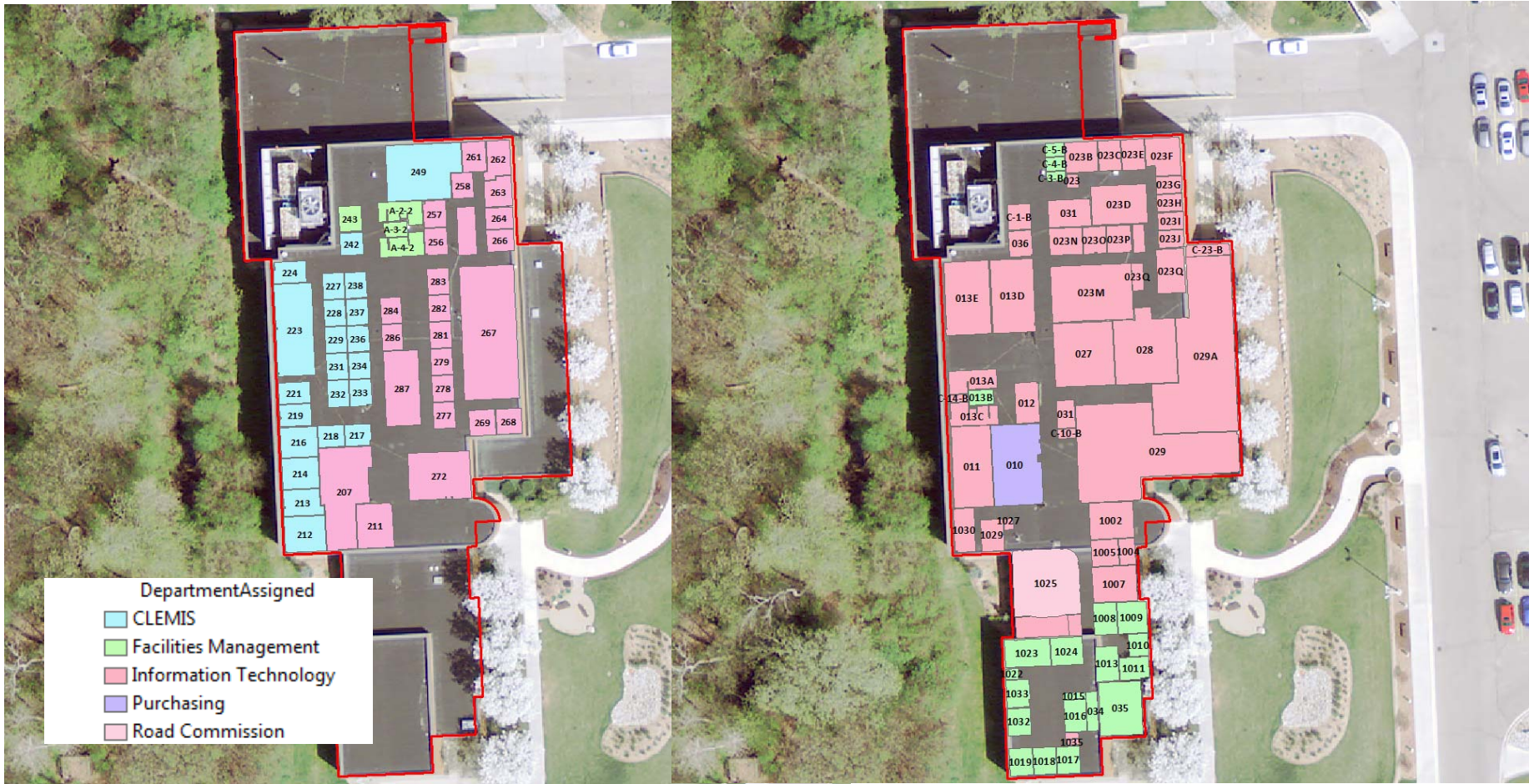


Georeference CAD Data

- Model interior spaces from CAD data, adding appropriate attribute information
- 30 Minutes to 3 Hours per CAD drawing

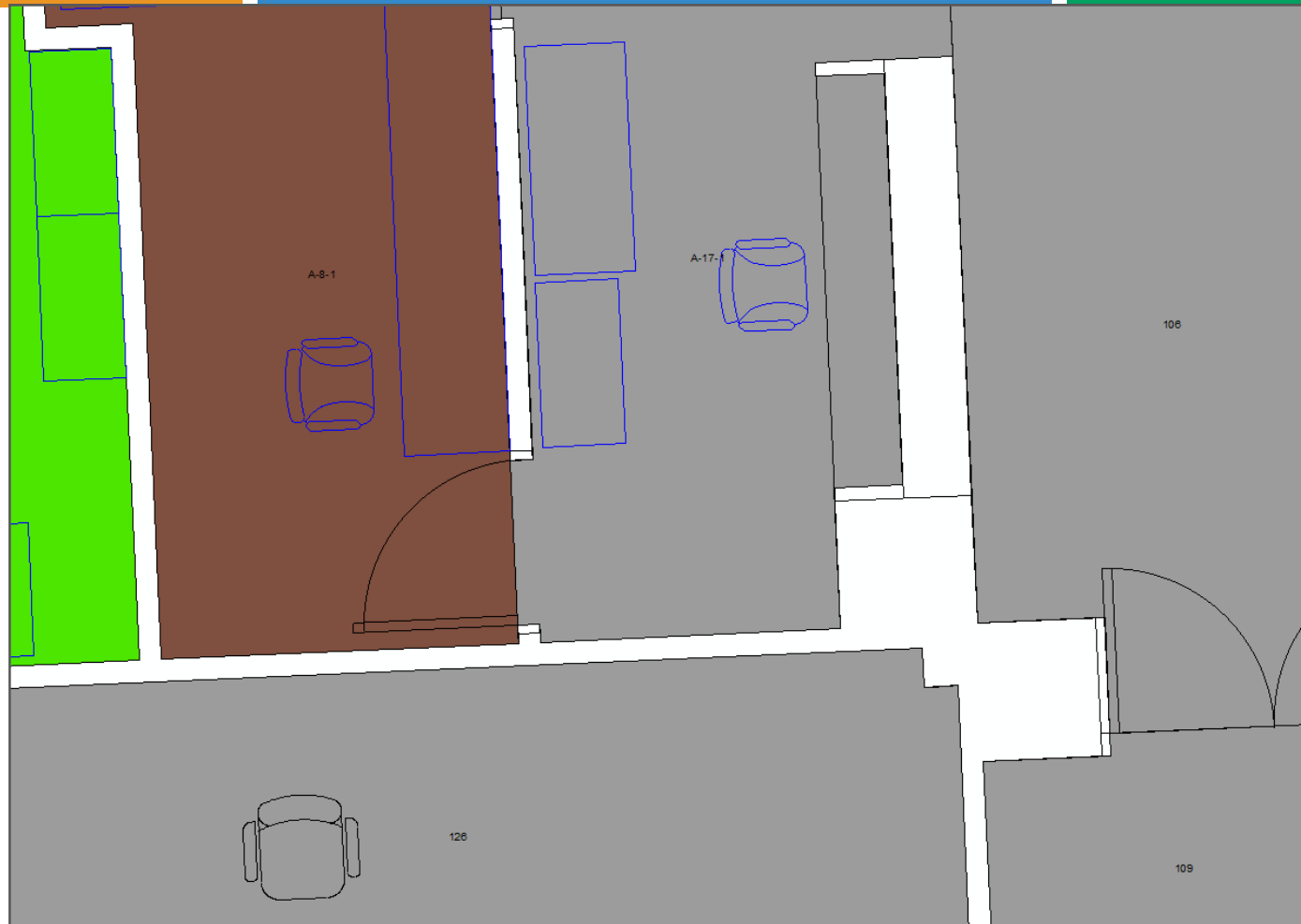


Derive GIS from CAD Data





Attention to Detail

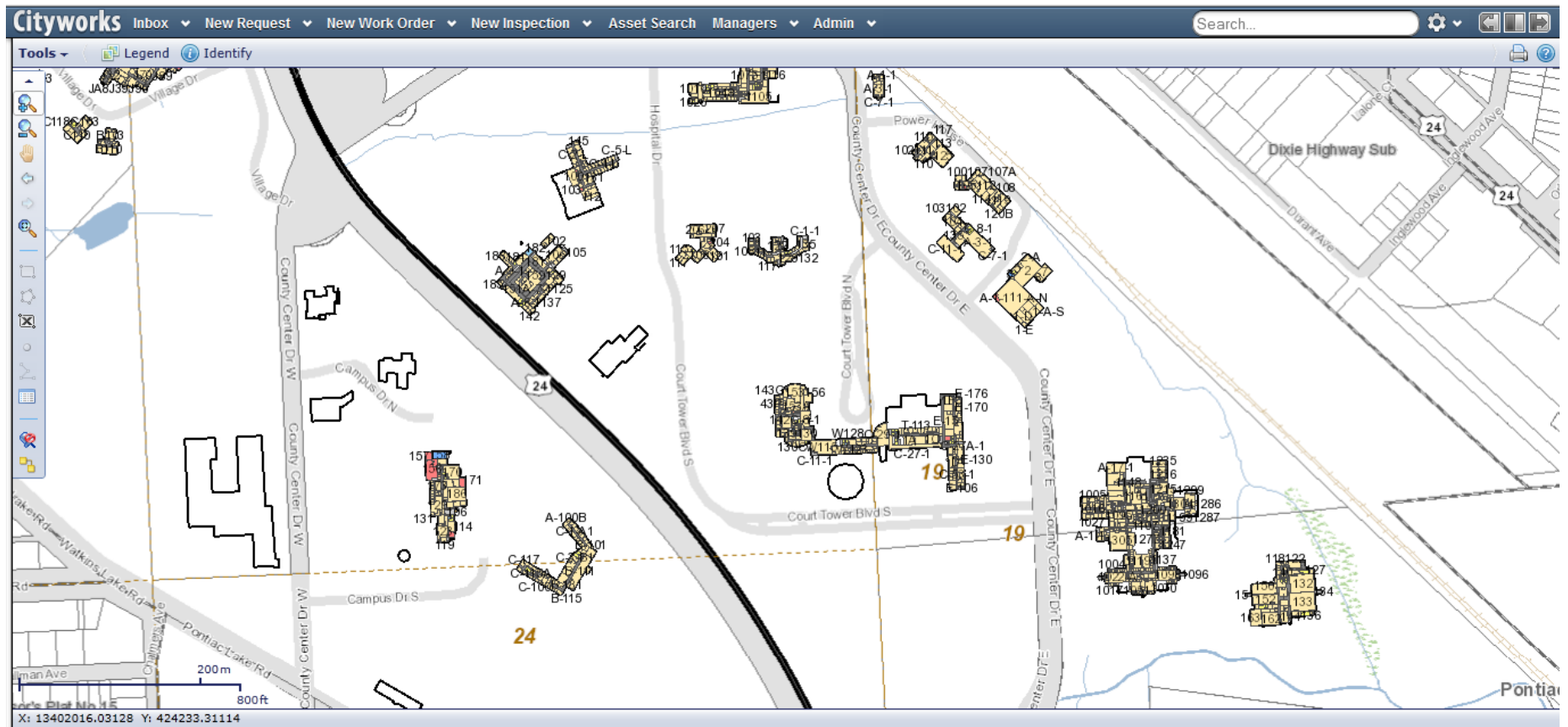


FM Space Allocation



| | | | | | |
|--|--|-----------|-----------------------------|-----------------------------|----------------------|
| 004 L Building | | | | | |
| Department: Facilities Management | Division: FM&O | Unit: N/A | Net:12,638.79 | Gross: 13105.27 | |
| Department: Sheriff | Division: N/A | Unit: N/A | Net:6,463.09 | Gross: 6701.63 | |
| | | | Net Total: 19,101.88 | Gross Total:19806.90 | N/G: 0.960000 |
| 005 D Building | | | | | |
| Department: Unassigned | Division: N/A | Unit: N/A | Net:2,755.10 | Gross: 3163.63 | |
| | | | Net Total: 2,755.10 | Gross Total:3163.63 | N/G: 0.870000 |
| 006 Oak Point East | | | | | |
| Department: Cir. Crt | Division: Friend of the Court | Unit: N/A | Net:27,693.80 | Gross: 33516.91 | |
| Department: Mgmt. & Budget | Division: Reimbursement | Unit: N/A | Net:2,359.21 | Gross: 2855.28 | |
| Department: Sheriff | Division: N/A | Unit: N/A | Net:428.68 | Gross: 518.81 | |
| | | | Net Total: 30,481.69 | Gross Total:36891.00 | N/G: 0.830000 |
| 007 Materials Management | | | | | |
| Department: Central Services | Division: N/A | Unit: N/A | Net:278.75 | Gross: 324.21 | |
| Department: Human Services | Division: N/A | Unit: N/A | Net:2,255.24 | Gross: 2623.07 | |
| | | | Net Total: 17,913.34 | Gross Total:20835.00 | N/G: 0.860000 |
| 008 Oak Point West | | | | | |
| Department: Community & Economic Development | Division: Community & Home Improvement | Unit: N/A | Net:4,551.35 | Gross: 5533.62 | |
| Department: Mgmt. & Budget | Division: Equalization | Unit: N/A | Net:12,348.35 | Gross: 15013.38 | |
| Department: Public Services | Division: Community Corrections | Unit: N/A | Net:10,491.18 | Gross: 12755.39 | |
| Department: Sheriff | Division: Drug Testing | Unit: N/A | Net:835.32 | Gross: 1015.60 | |
| | | | Net Total: 30,395.48 | Gross Total:36955.45 | N/G: 0.820000 |
| 009 North Office Building | | | | | |
| Department: Drain | Division: N/A | Unit: N/A | Net:585.33 | Gross: 985.12 | |
| Department: Public Services | Division: Circuit Court Probation | Unit: N/A | Net:10,174.09 | Gross: 17123.14 | |
| Department: Vacant | Division: N/A | Unit: N/A | Net:147.10 | Gross: 247.58 | |
| | | | Net Total: 22,323.93 | Gross Total:37571.50 | N/G: 0.590000 |
| 011 Little Oaks Child Care | | | | | |
| Department: Child Care | Division: N/A | Unit: N/A | Net:13,038.88 | Gross: 12552.00 | |

Collaborative Asset Management System (CAMS)



Expanding Interior Data

FM Space Allocation / Interior Maintenance - Editor

60ft

42.659 -83.339 Degrees

What's Next?

- More uses of the data
 - Web applications
- Oakland County Campus Viewer / Services Finder
- Integrations
 - HVAC data
- Better CAD to GIS relationship



Questions?