OPTIMIZED PREVENTATIVE MAINTENANCE WITH ARCGIS SERVER AT SACRAMENTO

City of SACRAMENTO
Department of Utilities

July 23, 2015

Introductions

- Sheri Adams :: City of Sacramento
- Steve Shaffer :: EEC

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City of Sacramento Department of Utilities

- Population: 480,000

- 4 Maintenance Groups
  - Water
  - Wastewater
  - Storm water
  - Water conservation

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Session Agenda

- Use of GIS at DOU
- CMMS Integration
- Geographic Scheduling Solution
- Takeaways
- Questions and Answers

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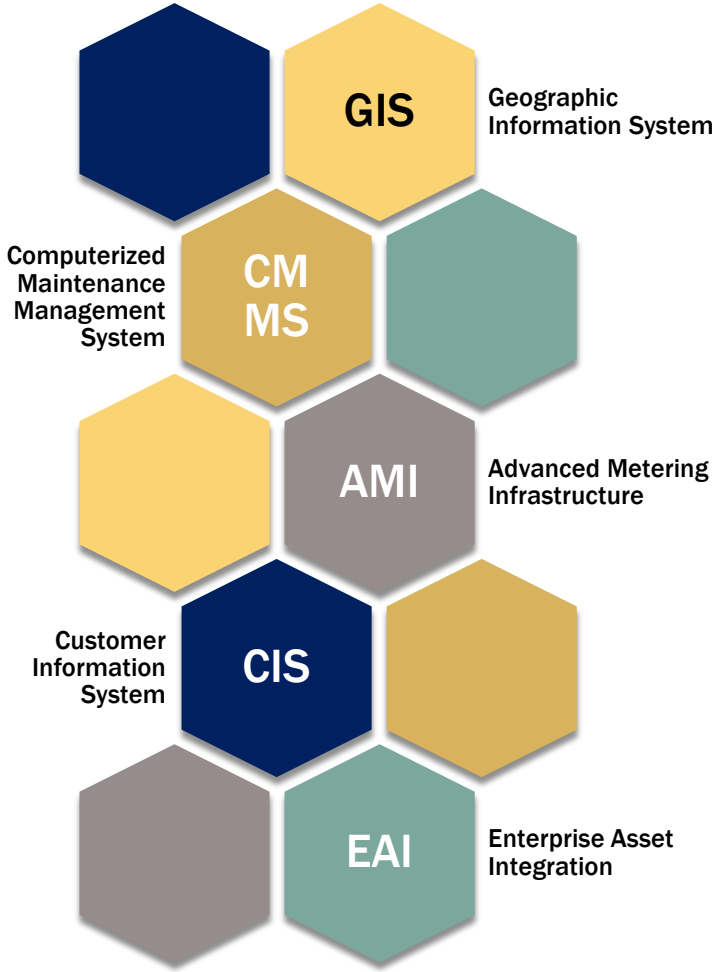
GIS @ DOU



- Managed by City I.T.
- Team of 2 techs dedicated to DOU
- Relied upon for daily operations
- Multiple integrated data systems

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GIS + CMMS = ☺

"Computerized Maintenance Management System"

- ~200 Users: Office + Field
  - Water
  - Wastewater
  - Drainage
  - Water Conservation
  - Engineering
  - Administration
  - Others…

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Cityworks AMS

- GIS-Centric
  - GIS = Asset Inventory
  - Uses Map Services
- 2013 DOU Upgrade
  - Desktop to Server

Cityworks®

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Cityworks - Google Chrome

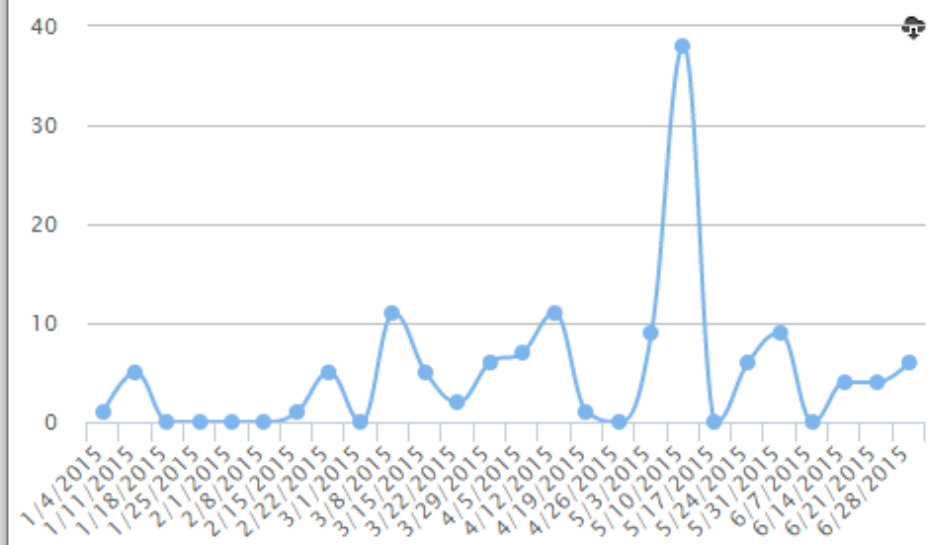
cityworks.eecenvironmental.com

Cityworks | Inbox | Recent | Work Orders | Inspections | Assets | Search...

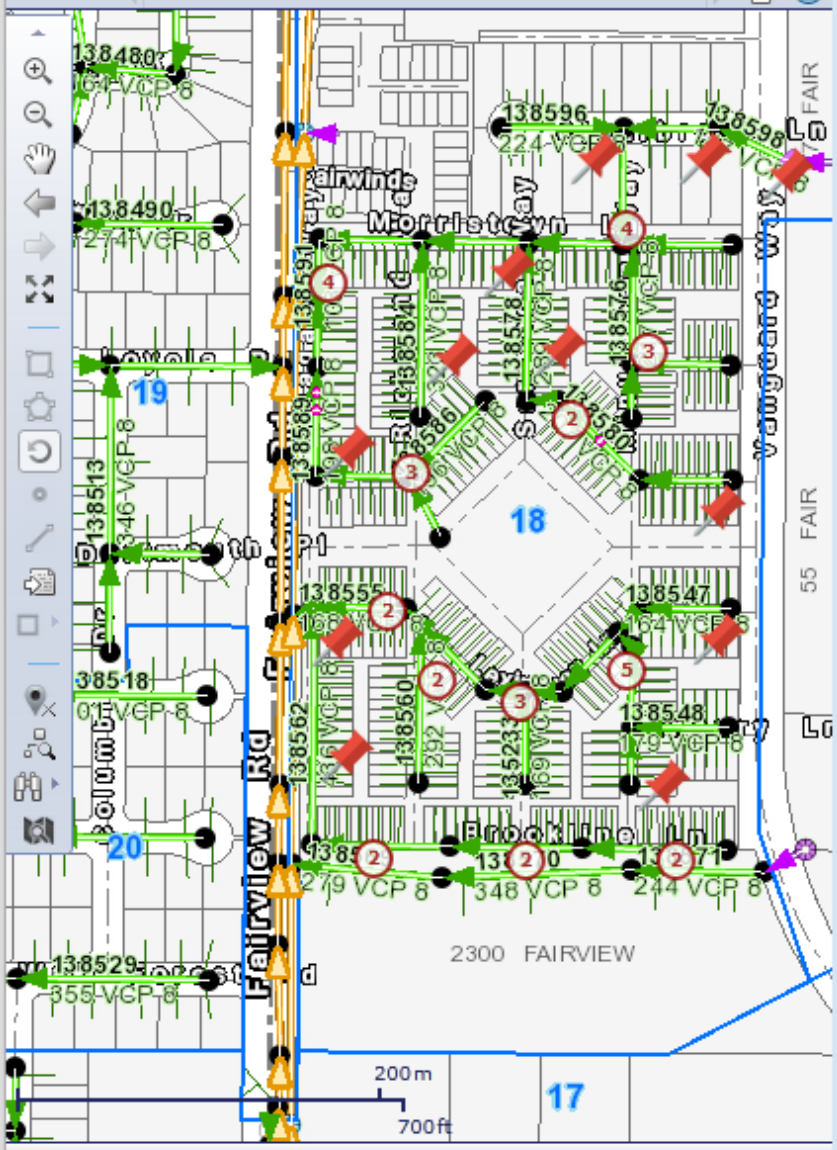
16991	Clean Main (Hots	CLOSED	ORTIZ, JOEL	4/2/2015
16957	Clean Main (Hots	CLOSED	ORTIZ, JOEL	4/2/2015
16846	Clean Main (Hots	CLOSED	JOSEPH, BRANDC	4/1/2015
16845	Clean Main (Hots	CLOSED	JOSEPH, BRANDC	4/1/2015
16808	Routine Cleaning	CLOSED	-, NATIONAL PLA	3/11/201
16799	Routine Cleaning	CLOSED	-, NATIONAL PLA	3/17/201
16797	Routine Cleaning	CLOSED	-, NATIONAL PLA	3/11/201

1 2 Page 1 of 2, items 1 to 100 of 131.

Work Orders Closed by Week



Tools



X: 6058254.71026 Y: 2188644.56253

WO #16845 Clean Main (Hotspot) - Semi-Annual - Cityworks - Google Chrome

cityworks.eecenvironmental.com

Cityworks | Inbox | Recent | Work Orders | Inspections | Assets | Search...

Work Order | Tasks | ELM | Save | Close | Delete

Quality Assurance

NA	Tasks Complete
NA	Inspections Complete
2 / 2	Required Fields Filled In
1	Asset(s) Attached
1	Labor Hours Entered

Work Order

Description: Clean Main (Hotspot) - Semi-Annual

Number: 16845

Entity Type: SSGRAVITYMAIN Change

Category: Sewer

Initiated By: CANO, STEVE Date: 10/20/2014 7:13 A

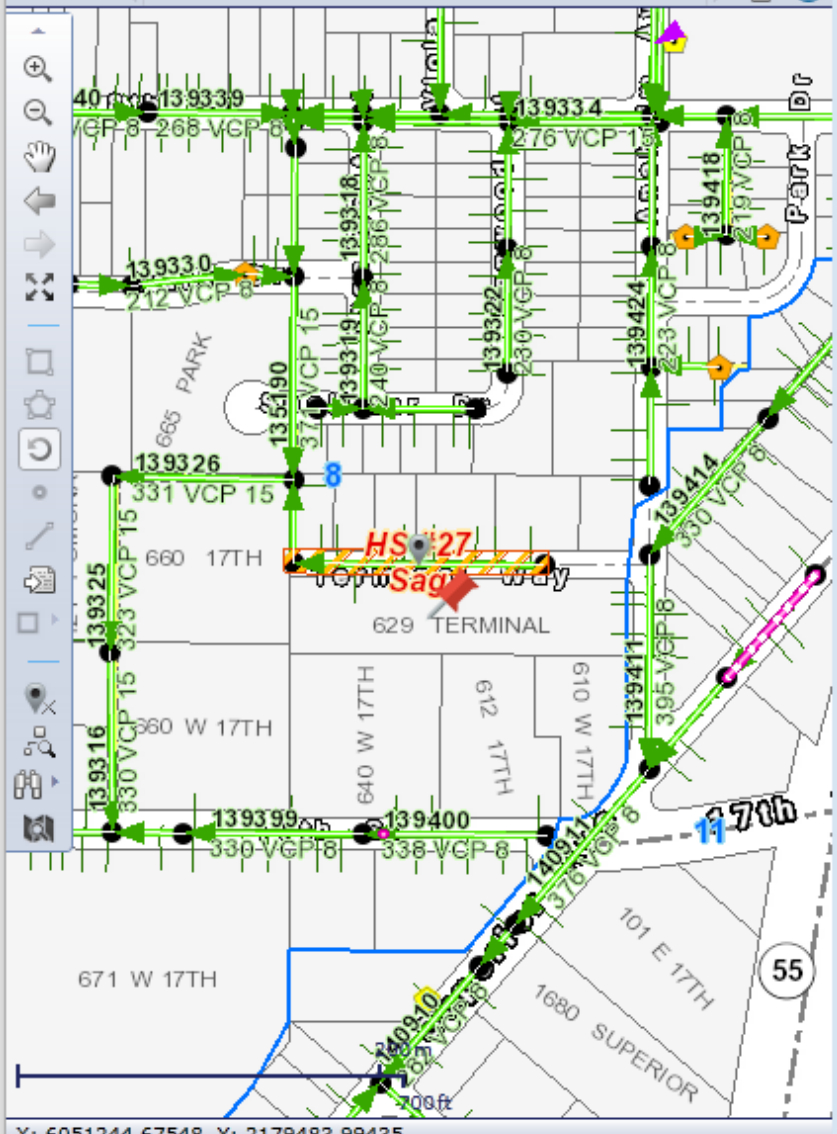
Status: Closed Priority: Medium

Requested By: CANO, STEVE Supervisor: CANO, STEVE

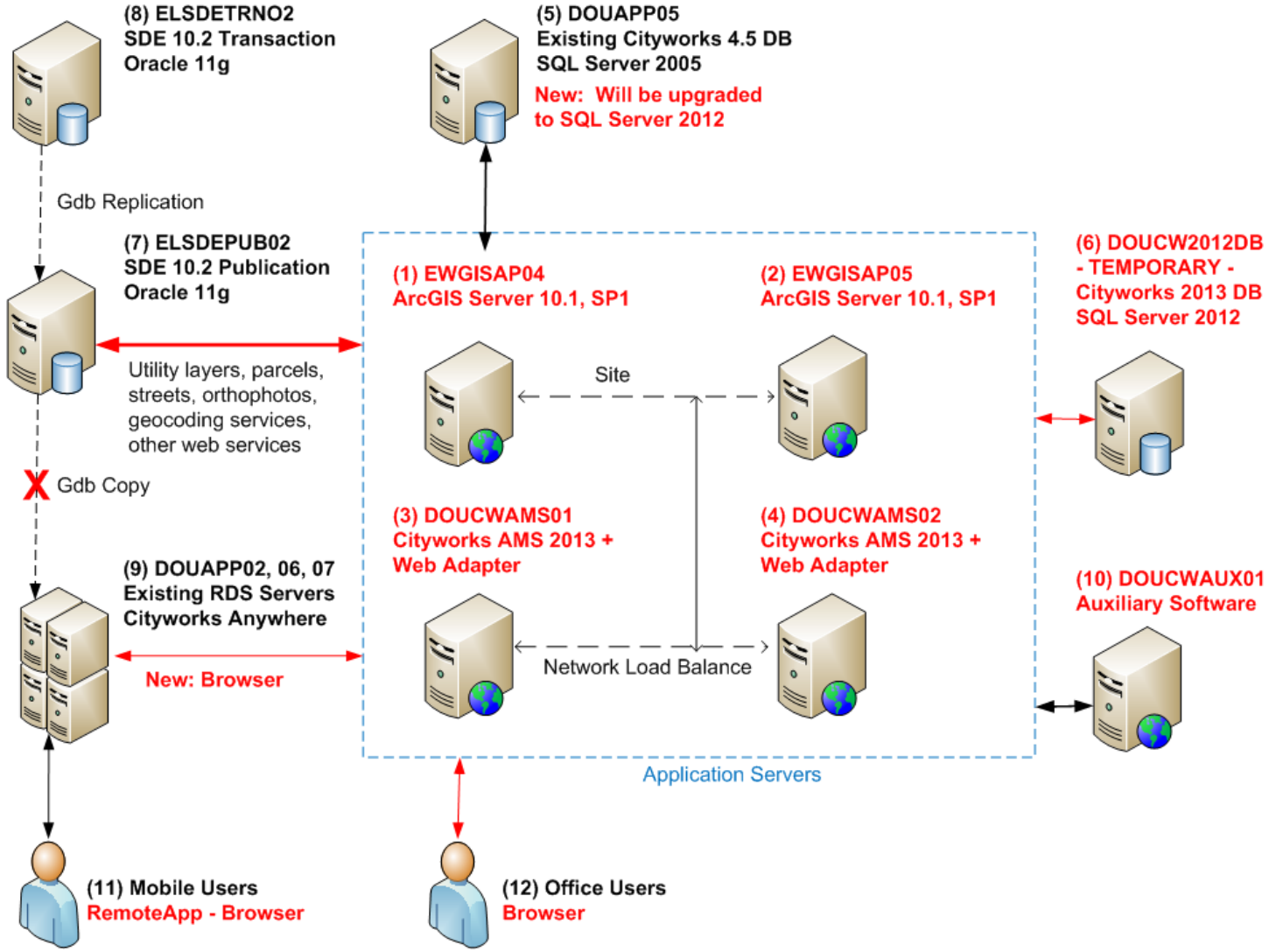
Submit To: JOSEPH, BRAND Date: 3/27/2015 1:09 PM

Projected Start: 4/1/2015 12:00 AM Projected Finish: 4/30/2015 12:00 A

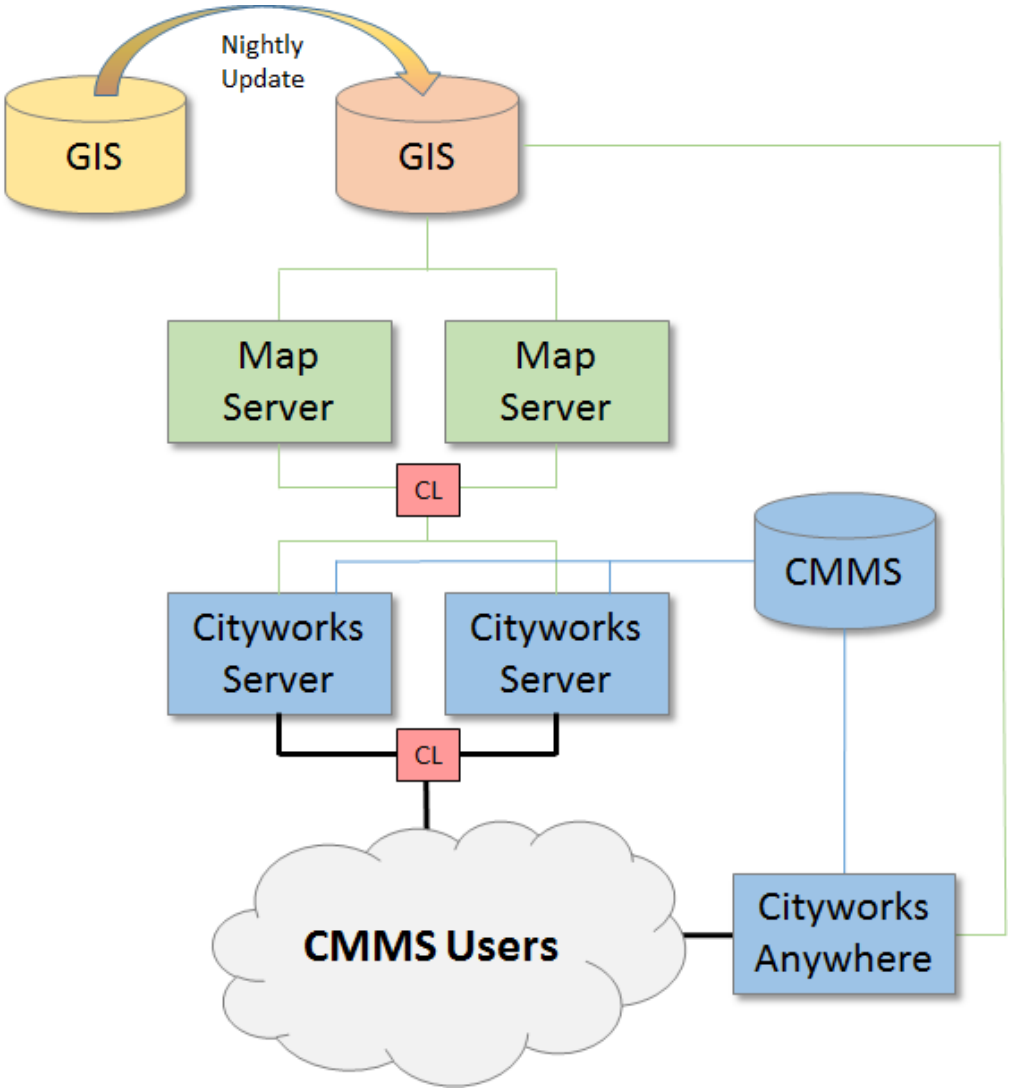
Tools



System Architecture—Physical



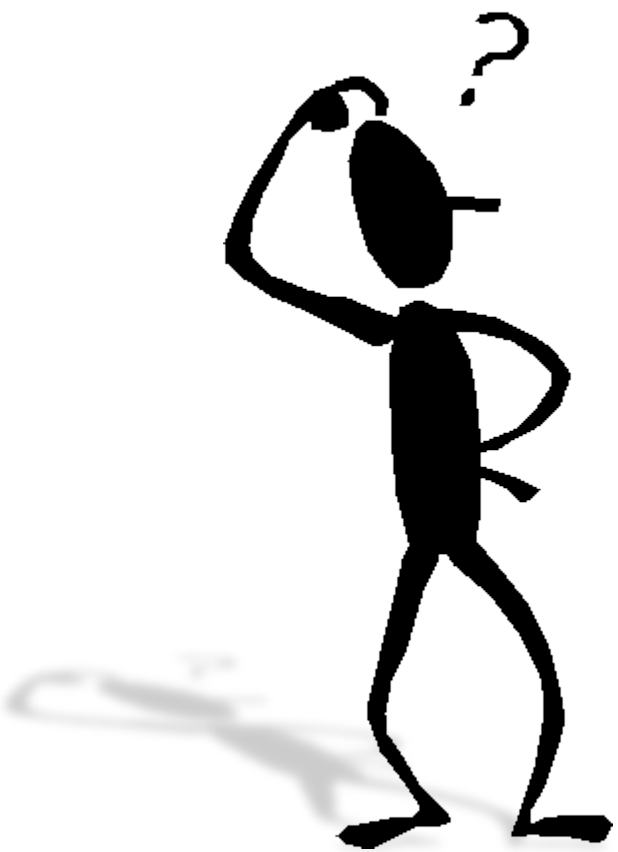
System Architecture–Logical



Geographic Scheduling

of Preventative Maintenance Activities

The Problem



- Most CMMS systems can “do cyclical scheduling”
- But what about logistics?
  - Geographic grouping
  - Multi-factor prioritization
  - Route optimization

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The Solution

Geographic

(Map-Based)

Scheduling & Planning

From Inside Cityworks

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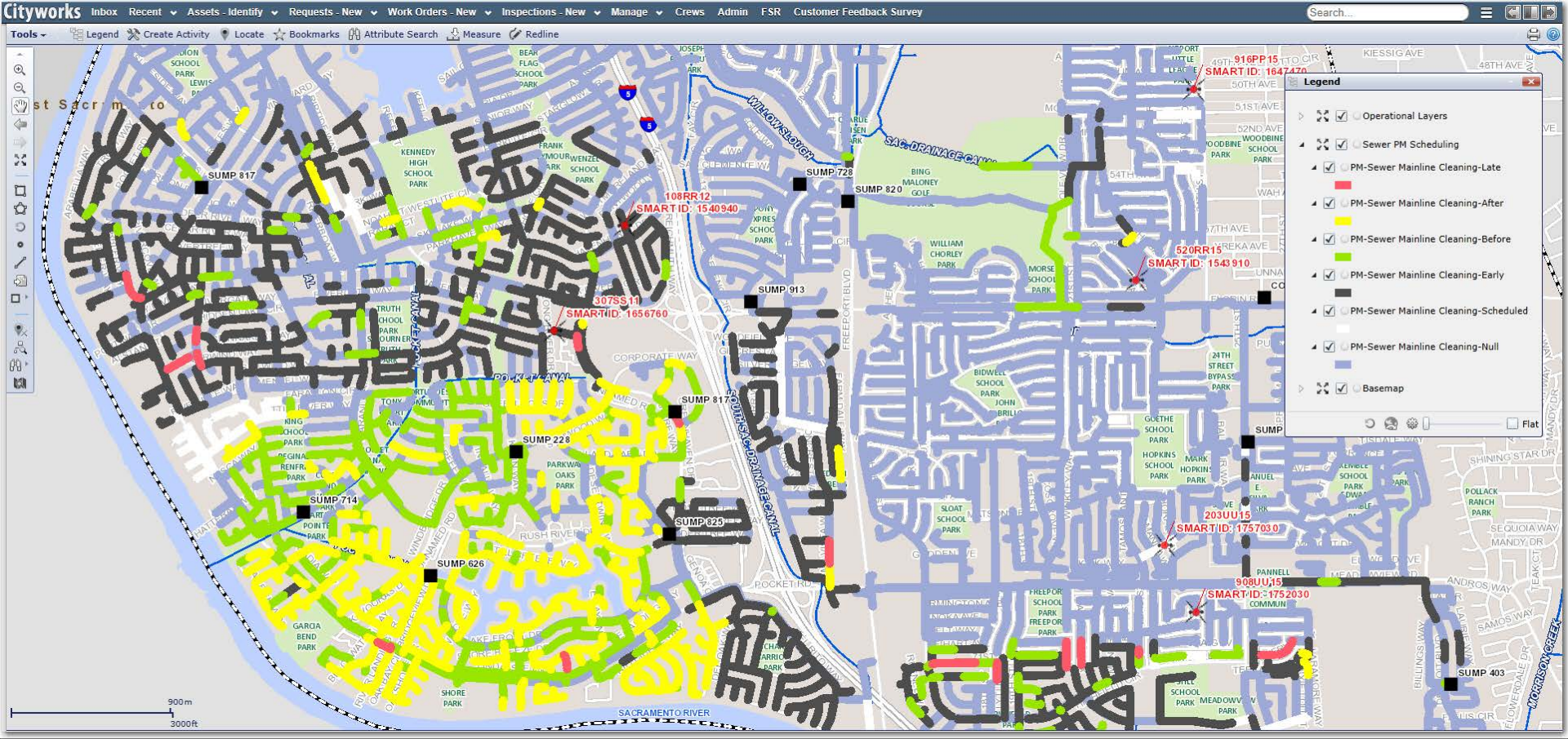

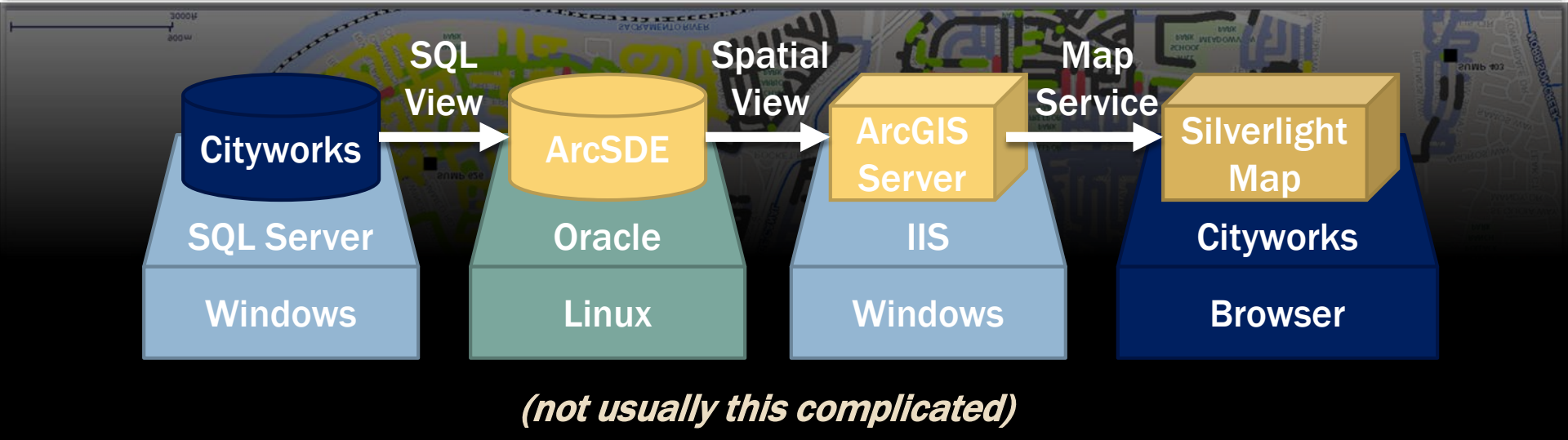

(not usually this complicated)

So What?

- Geography matters!
  - The “geographic perspective” to preventative maint.
- GIS integration
  - Tight GIS integration is required (at the vendor level even) for geo-enabling business systems
- Checks and balances
  - GIS as a safety net

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Next Steps

- Cityworks 2014 Upgrade
- Continued Maintenance
- Trimble/Cityworks Interface
- Water Meter Maintenance Program

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Next Steps: GIS Department

1. Upgrading all GIS platforms to ArcGIS 10.2.2 (Desktop and Server)
2. Consider upgrading GIS Platforms to 10.3 (depends on 3rd Party applications such as CityWorks, Infor EAM, Granite XP)
3. Expanding use of the Data Collector App and other ESRI apps on tablet devices
4. Evaluate use of high-end GPS receivers with Data Collector App and tablet devices
5. Publish Feature Services (view and editing) for use with the Data Collector App
6. Evolve Utilities, Public Works, and property related GIS layers to use Local Government Model and geometric networks
7. Utilize industry focused GIS data management tools and apps supported and promoted by ESRI
8. Deliver data, maps, and apps via web and web services to internal and public customers
9. Promote GIS within the City and maximize current investments in GIS while evaluating 3rd Party options
10. Promote data quality standards (GIS and other business system) throughout City departments
11. Expand the use of ArcSDE connections with internal CAD users in engineering departments

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Questions & Answers

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Contact Us

Sheri Adams, City of Sacramento

sadams@cityofsacramento.org

916/808.1470

Steve Shaffer, EEC

sshaffer@eecenvironmental.com

714/667.2300

Booth 1610

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