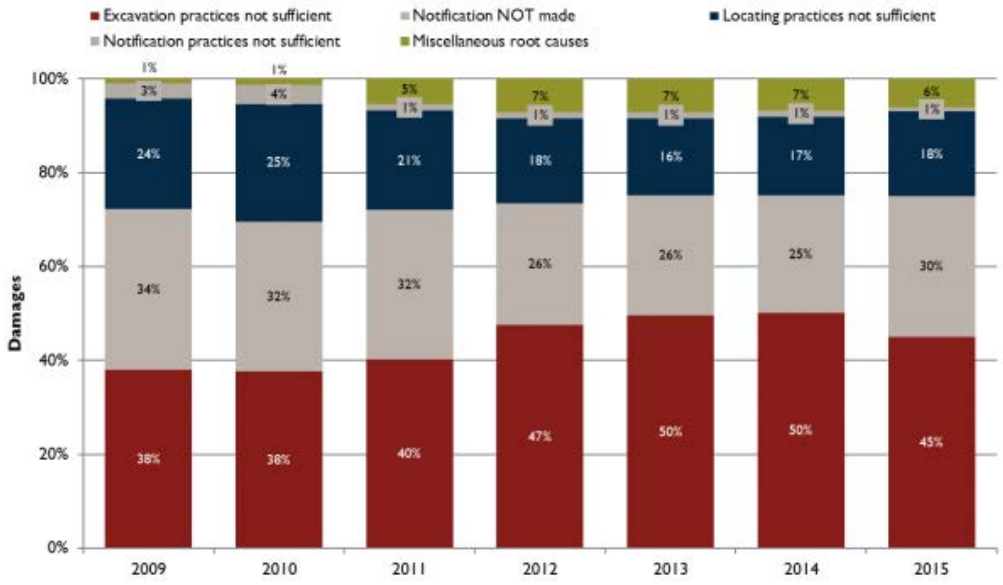
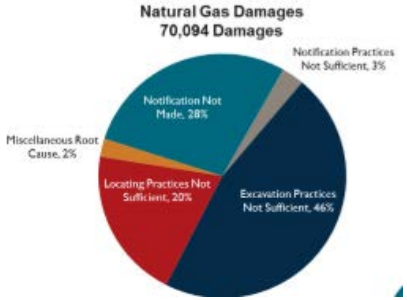
Damage Prevention Through High Accuracy Mapping

Alicia Farag, LocusView

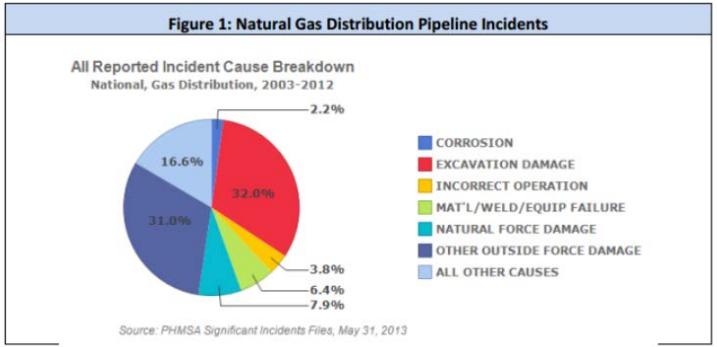
EXCAVATION DAMAGE - ROOT CAUSES



CGA, Annual Report 2015



CGA, Natural Gas Analysis 2015



LOCATE PRACTICES NOT SUFFICIENT - ROOT CAUSES

- Inaccurate maps
- Unlocatable pipe
- Poor marking techniques

LOCATE PRACTICES NOT SUFFICIENT - SOLUTIONS

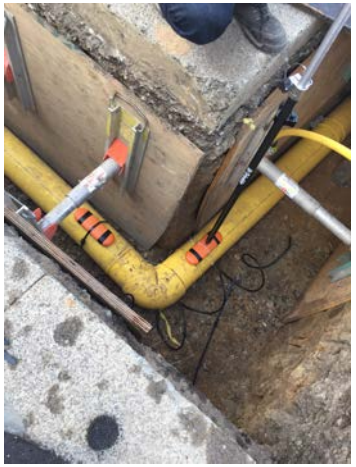
- Inaccurate maps – Improved mapping practices during construction and operations
- Unlocatable – Enhanced visualization and locating technologies
- Poor marking techniques – Training and quality oversight

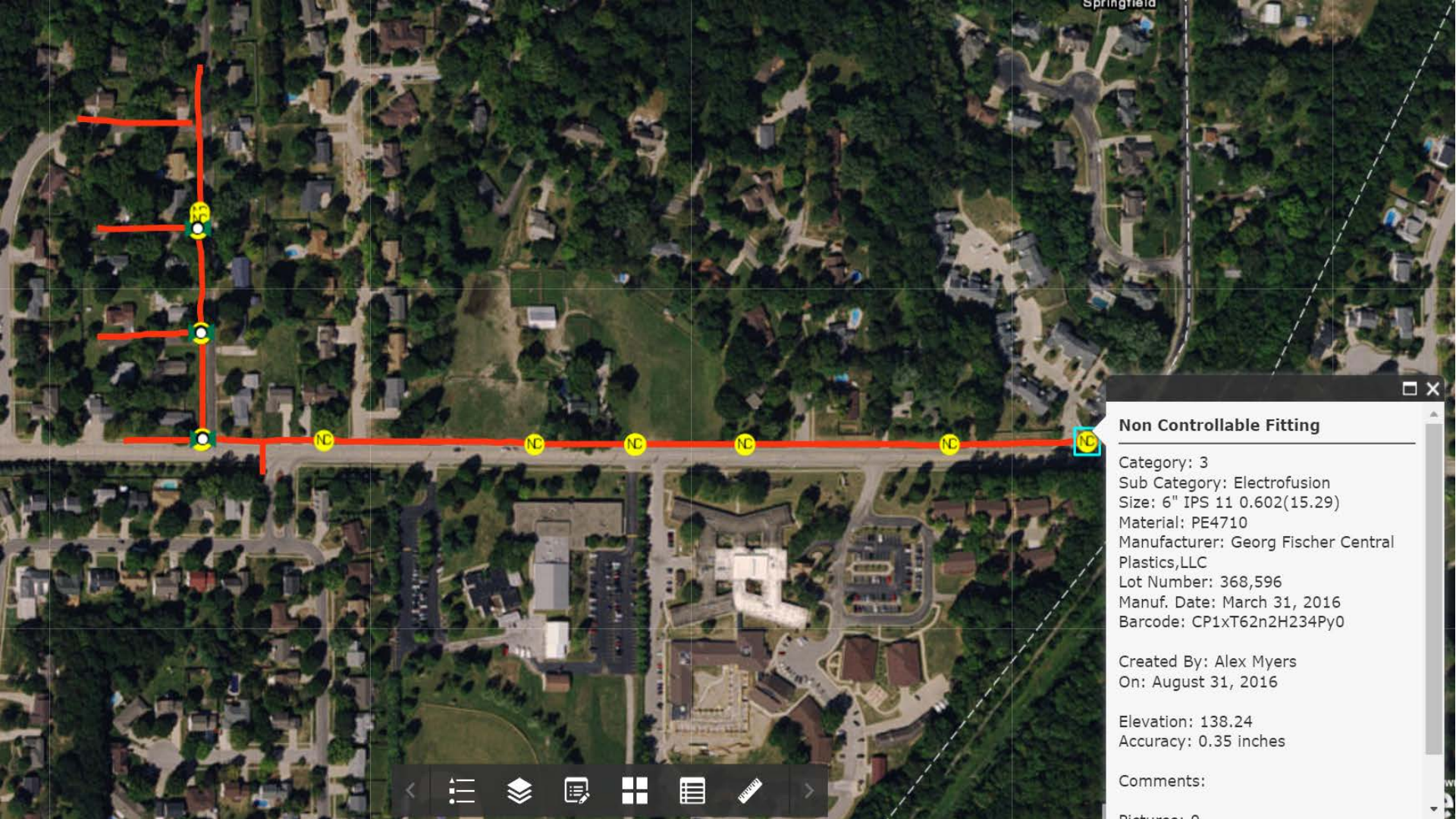
Accurate maps are the basis of damage prevention

IMPROVED MAPPING & LOCATING TECHNOLOGIES

- Accurate maps
  - High accuracy GPS during construction
  - Data collection throughout operations
  - Depth (z-coordinate)

- Visualization and locating technologies
  - GPS + RFID
  - Visualization during first and second party excavation
  - Visualization of accuracy





Non Controllable Fitting

Category: 3
Sub Category: Electrofusion
Size: 6" IPS 11 0.602(15.29)
Material: PE4710
Manufacturer: Georg Fischer Central Plastics,LLC
Lot Number: 368,596
Manuf. Date: March 31, 2016
Barcode: CP1xT62n2H234Py0

Created By: Alex Myers
On: August 31, 2016

Elevation: 138.24
Accuracy: 0.35 inches

Comments:

CHALLANGES

- Practical challenges of GPS in urban areas
- Standardized data collection
- Depth and depth of cover

CHALLANGES

- Ease of use
  - “I want this to work like my fish finder”
- Integration into existing workflows
  - Construction
  - Operations - locating, repairs . . .
- Distribution to other stakeholders
  - Locators, emergency response, contractors
- Cost and scale

R&D NEEDS

- Improved GPS in urban areas
  - Software data processing techniques
  - More accurate and less complex laser range finders

- RFID and related technologies
  - Greater depths
  - Smaller
  - Cheaper

R&D NEEDS

- High accuracy GPS for non-experts
  - Integration into existing workflows – construction, operations, locating
  - Software data analysis for quality feedback
  - Secure and timely distribution to other stakeholders
  - Scalable and lower cost technologies

- Data model standards for GPS as-builting

R&D NEEDS

- **Other ideas?**